



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

March 31, 2015

WELL WORK PERMIT
Secondary Recovery Well

This permit, API Well Number: 47-8704766, 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: C. MCGRAW 116

Farm Name: KING, WILLIE

API Well Number: 47-8704766

Permit Type: Secondary Recovery Well

Date Issued: 03/31/2015

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 with 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.
8. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

87047665
87047665

**U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT**
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

OFFICIAL USE

| | |
|--|---------|
| Postage | \$ 1.61 |
| Certified Fee | 3.30 |
| Return Receipt Fee (Endorsement Required) | 2.70 |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees | \$ 7.61 |



Sent To Willie King
 Street, Apt. No., or PO Box No. 1090 Clover Road
 City, State, ZIP+4 Spencer, WV 25276

See Reverse for Instructions

PS Form 3800, August 2006

**U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT**
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

OFFICIAL USE

| | |
|--|---------|
| Postage | \$ 1.61 |
| Certified Fee | 3.30 |
| Return Receipt Fee (Endorsement Required) | 2.70 |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees | \$ 7.61 |



Sent To Richard Fisher et al.
 Street, Apt. No., or PO Box No. 4513 Clay Road
 City, State, ZIP+4 Spencer, WV 25276

See Reverse for Instructions

PS Form 3800, August 2006

09h5 h20h 0000 0750 4702

22h5 h20h 0000 0750 4702

HG ENERGY, LLC
304-422-6565
5260 DUPONT RD
PARKERSBURG, WV 26101

03-11

2914

56-250/442
02

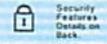
DATE 1-19-2015

PAY TO THE ORDER OF WV D.E.P.

\$ 650.00

Six Hundred Fifty Dollars and 00/100 -----

DOLLARS



800.374.6123
peoplesbankcorp.com

Working Together. Building Success.

FOR Permit - Charles McGraw No. 116

Roger L. Heldman NP

RECEIVED
Office of Oil and Gas

FEB 06 2015

WV Department of
Environmental Protection

87047665

WW-2B1
(5-12)

Well No. Charles McGraw 116

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.

Be advised, you have the right to sample and analyze any water supply at your own expense.

Listed below is the laboratory chosen by operator to perform analysis, and contactor chosen to collect sample.

Certified Laboratory Name Sturm Environmental
Sampling Contractor Sturm Environmental

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 underling which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site, the Chief may require the operator to test wells up to 2000 feet from the proposed site.

Surface Owners with Water Sources Identified for Sampling/Analysis:

* Richard Fisher
4513 Clay Road
Spencer WV 25276

RECEIVED
Office of Oil and Gas

FEB 06 2015

WV Department of
Environmental Protection

SEE TOPO MAP

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 Name HG Energy, LLC OP Code 494497948

Watershed Rush Run Quadrangle Looneyville 7.5'

Elevation 1057' County Roane District Smithfield

Description of anticipated Pit Waste: Fluids encountered while stimulating subject well

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes _____ No X

Will a synthetic liner be used in the pit? Yes . If so, what mil.? 20 mil

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number 25-561)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Air, Fresh Water

-If oil based, what type? Synthetic, petroleum, etc. NA

Additives to be used? Water, Soap, KCl

Will closed loop system be used? No

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 White

RECEIVED
Office of Oil and Gas

Company Official (Typed Name) Diane White

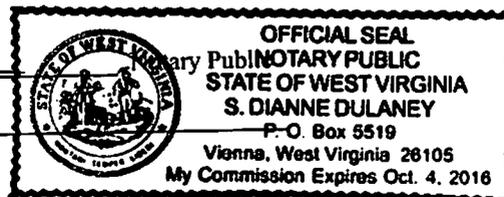
FEB 06 2015

Company Official Title Agent

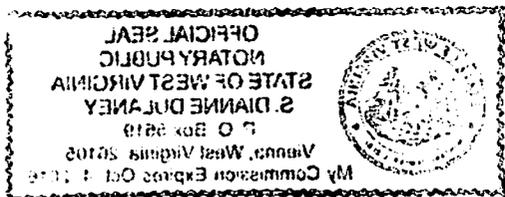
WV Department of
Environmental Protection

Subscribed and sworn before me this 15th day of January, 20 15

My commission expires Oct. 4, 2016

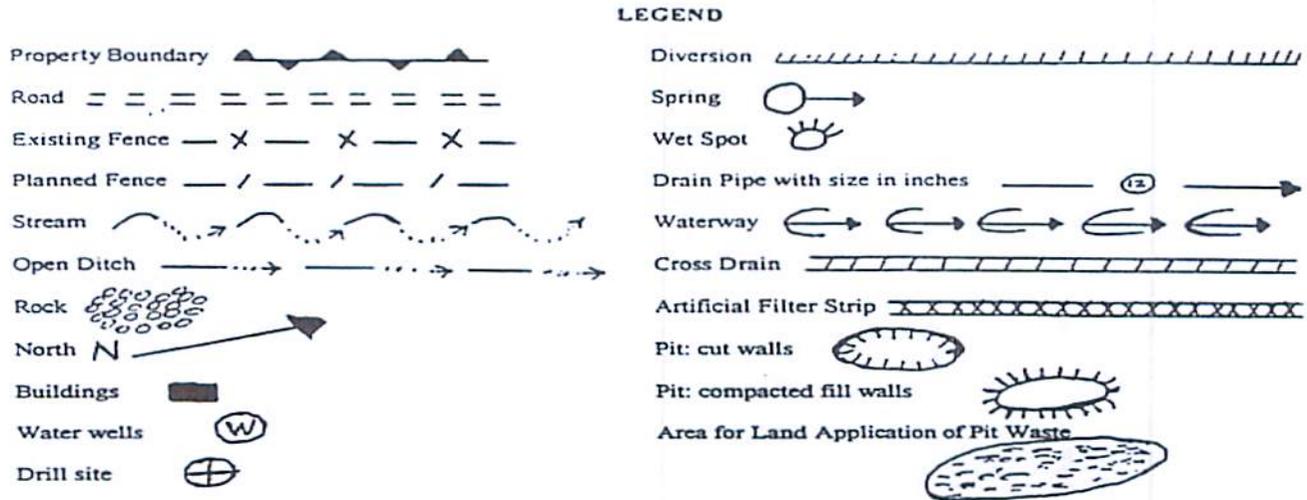


WEST VIRGINIA
NOTARY PUBLIC
Dianne Dulaney
P.O. Box 8419
Martinsburg, West Virginia 26105



WEST VIRGINIA
NOTARY PUBLIC
Dianne Dulaney
P.O. Box 8419
Martinsburg, West Virginia 26105

87047665



Proposed Revegetation Treatment: Acres Disturbed 2.1 acres Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

Mulch Straw 2 Tons/acre

Seed Mixtures

| Seed Type | Area I | lbs/acre | Seed Type | Area II | lbs/acre |
|---------------|--------|----------|---------------|---------|----------|
| Tall Fescue | | 40 | Tall Fescue | | 40 |
| Ladino Clover | | 5 | Ladino Clover | | 5 |

Sediment control to be in place at all times.

Attach: Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by:

Comments: _____

RECEIVED
Office of Oil and Gas

FEB 06 2015

WV Department of
Environmental Protection

Title: Inspector Date: 1/24/15

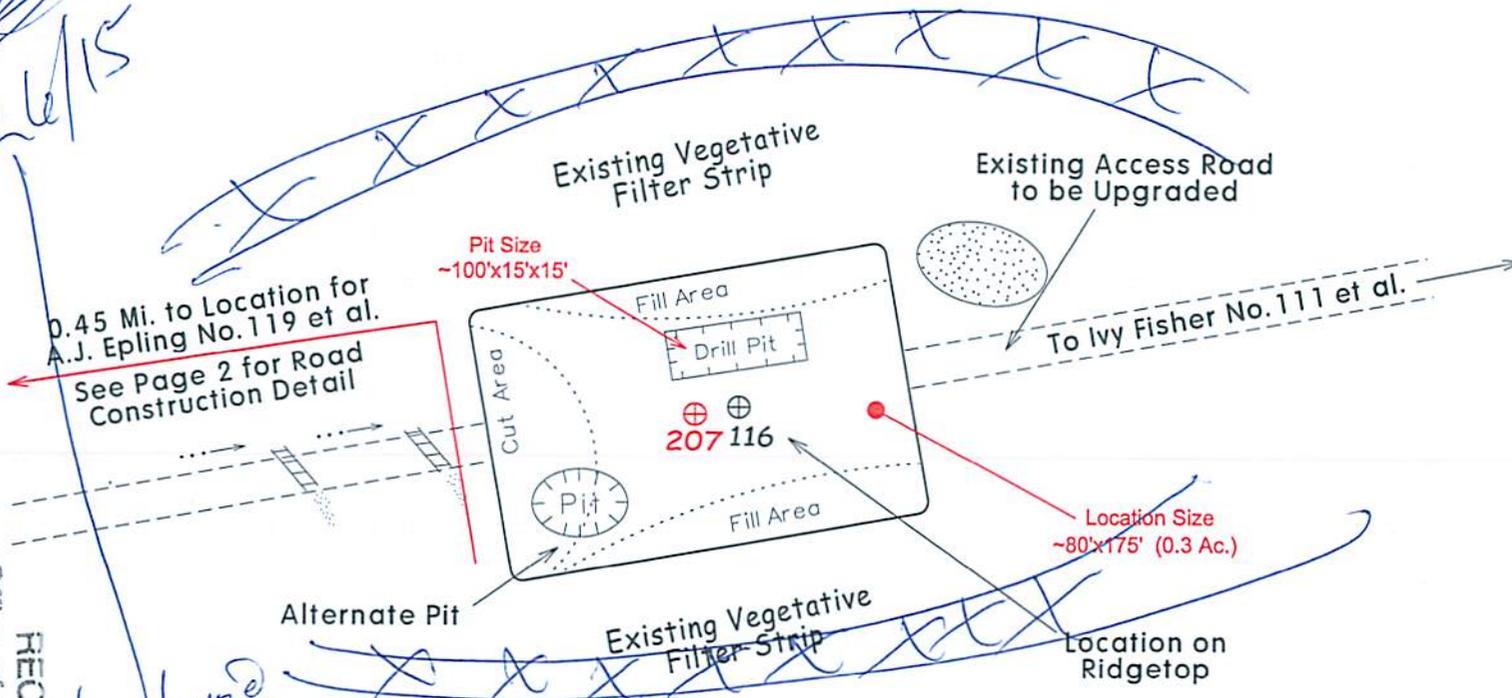
Field Reviewed? (X) Yes () No

Reclamation Plan For:

Charles McGraw No. 116
Charles McGraw No. 207



Handwritten: 1/26/15



WV Department of Environmental Protection

RECEIVED
Office of Oil and Gas
FEB 06 2015

Ivy Fisher Lease
Willie King
- Surface

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 WELL.
- SOME ACCESS ROADS ARE EXISTING AND WILL BE UPGRADED TO WVDEP STANDARDS. NEW STRUCTURES WILL BE INSTALLED AS SHOWN.
- STOCKPILE TOPSOIL FOR RE-DRESSING LOCATION DURING RECLAMATION
- 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.

See Page 2 for
Road to Additional Wells

487047665

SUBJECT WELL
Charles McGraw No.116



RECEIVED
Office of Oil and Gas
FEB 06 2015
WV Department of
Environmental Protection

◆ Denotes Potential
Water Supply Source
and Surface Owner
(From Aerial
Photography)

Section of
Looneyville 7.5' Quadrangle
SCALE 1"=1000'

(BOT. HL: LON:-81°16'33.2")

LON: -81°16'29.3"

7080'

LAT: 38°45'00"

MAP OF H.G. ENERGY, LLC -WATERFLOOD UNIT- C. McGRAW 116

LON: 81°15'00"

12925'

LAT: 38°42'52.3"

(BOTTOM HOLE: LAT:38°42'47.1")

SURVEY NOTES

1 - Well ties and Latitude and Longitude were measured by DGPS (Sub-meter Mapping Grade). Bearings are referenced to UTM Grid North (Zone 17 North - NAD 1927).

2 - Surface owners and adjoining information obtained from the Roane County Assessor's tax records.

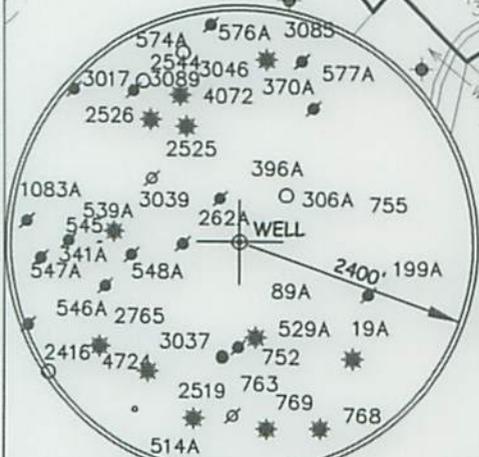
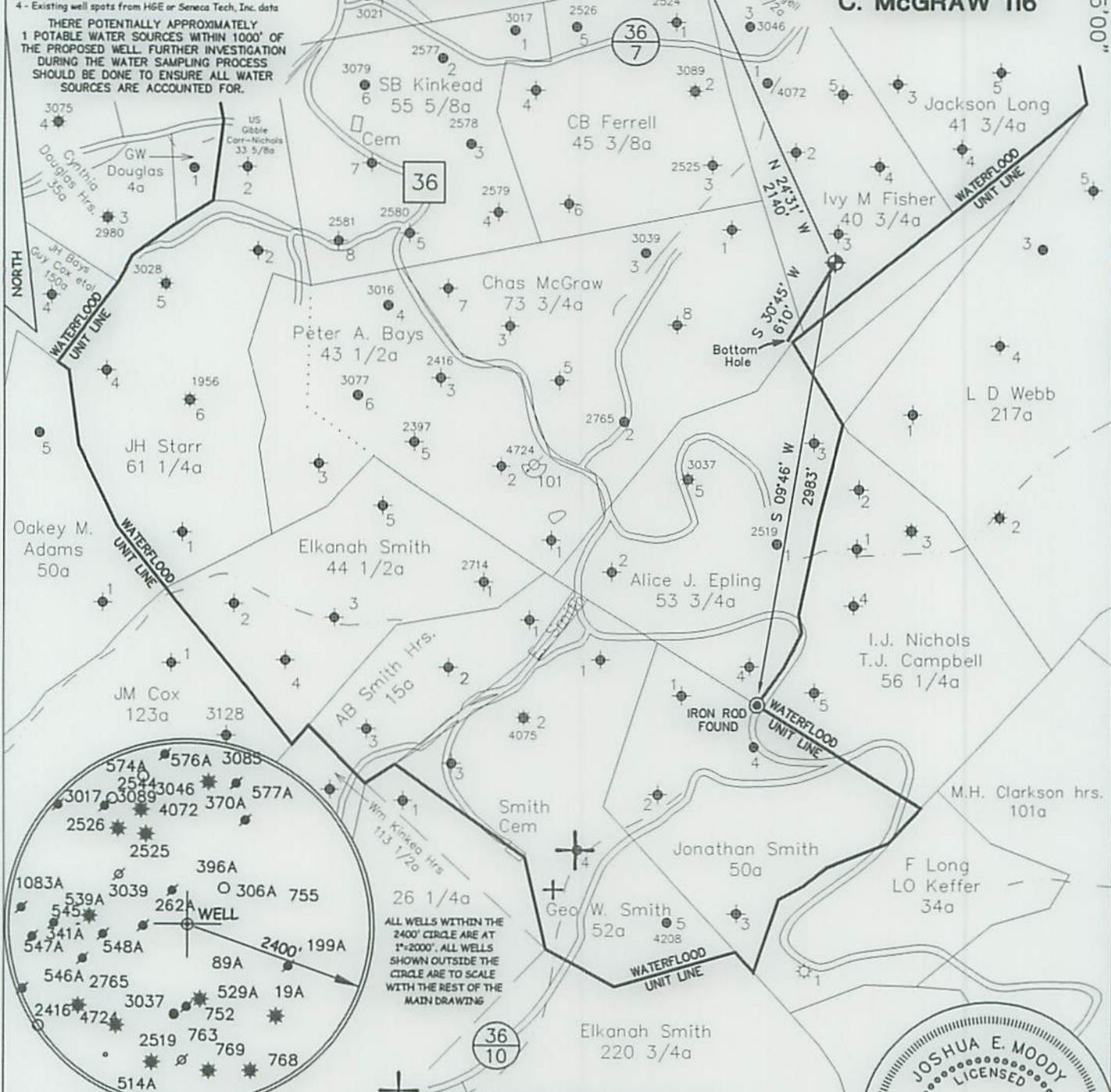
3 - No Title Opinion was provided to the Surveyor during this survey. This survey is subject to a complete title Opinion.

4 - Existing well spots from HGE or Seneca Tech, Inc. data

THERE POTENTIALLY APPROXIMATELY 1 POTABLE WATER SOURCES WITHIN 1000' OF THE PROPOSED WELL. FURTHER INVESTIGATION DURING THE WATER SAMPLING PROCESS SHOULD BE DONE TO ENSURE ALL WATER SOURCES ARE ACCOUNTED FOR.

| UTM Coordinates (Zone 17N-NAD 1983) | |
|-------------------------------------|------------------------------|
| Surface | N-4,285,143m. E-476,123m. |
| Bottom Hole | N-4,284,983m. E-476,028m. |

| LOCATION REFERENCES | |
|---------------------|-------------|
| MAGNETIC BEARING | |
| N 40° E 114.2' | 12" HICKORY |
| S 36° E 73.9' | 8" HICKORY |



ALL WELLS WITHIN THE 2400' CIRCLE ARE AT 1"=2000'. ALL WELLS SHOWN OUTSIDE THE CIRCLE ARE TO SCALE WITH THE REST OF THE MAIN DRAWING

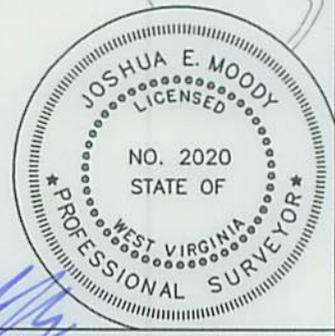
JOB # 14-033
 DRAWING # 14CLOVER FOLDER
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEV. MAPPING GRADE GPS

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 PERSCIBED 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

JOSHUA E. MOODY, P.S. 2020
 DATE 12/15/14
 OPERATOR'S WELL
 C. McGRAW # 116

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL HORIZONTAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1057' WATERSHED RUSH CREEK OF HENRYS FORK API WELL # 47-087-047665
 DISTRICT SMITHFIELD COUNTY ROANE STATE 47 COUNTY 087 PERMIT 047665
 QUADRANGLE LOONEYVILLE 7.5'

SURFACE OWNER WILLIE KING ACREAGE 40.16 ACRES +/-
 OIL & GAS ROYALTY OWNER GEORGE W. CARR ET AL LEASE ACREAGE 75.00 ACRES +/-
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION
 OTHER PHYSICAL CHANGE IN WELL (SPECIFY) WELL WILL BE DRILLED DIRECTIONALLY (S 30°45' W 610')
 PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION BIG INJUN
 WELL OPERATOR H.G. ENERGY, LLC ESTIMATED DEPTH TVD=2,210' MD=2,670'
 ADDRESS 5260 DuPONT ROAD DESIGNATED AGENT DIANE WHITE
PARKERSBURG, WV 26101 ADDRESS 5260 DuPONT ROAD
PARKERSBURG, WV 26101

FORM WW-6

WV Department of Environmental Protection
 LEASE # 61420-50

COUNTY NAME PERMIT

**Environmental Protection
MA Department of**

FORM MW-9

PAGE # 01+30-20

| | | | |
|------------------|----------------------|------------------|----------------------|
| ADDRESS | BARBERSBURG, MD 2101 | ADDRESS | BARBERSBURG, MD 2101 |
| METG OPERATOR | H.C. ENERGY, LLC | DESIGNATED AGENT | DIANE WHITE |
| TABLET FORMATION | BIG IRON | ESTIMATED DEPTH | 30-50, MD=5,230, |
| TYPE & ABANDON | CLEAN OIL & BEYOND | | |

OTHER PHYSICAL CHANGE IN METG (SPECIFY) METG MIGHT BE DRILLED DIRECTIONALLY (S 30.42, W 010.)
 STIMULATE BY GAS OFF OLD FORMATION REFORMATE NEW FORMATION
 PROPOSED WORK: DRILL COMPLET DRILL DEEPER REDRILL FRACTURE OR
 OIL & GAS BOYALTY OWNER GEORGE M. CARP ET AL LEASE ACREAGE 32.00 ACRES +/-
 SURFACE OWNER MIDGE KING ACREAGE 40.18 ACRES +/-

| | | | |
|-----------------------|---------|-----------------|--|
| LOCATION: ELEVATION | 1023, | WATERSHED | BUSH CREEK OF HENRY'S FORK |
| (IF "GAS") PRODUCTION | STORAGE | DEEP | SHALLOW |
| METG TYPE: OIL | GAS | FLUID INJECTION | <input checked="" type="checkbox"/> WASTE DISPOSAL |

OFFICE OF OIL AND GAS
OF ENVIRONMENTAL PROTECTION
WEST VIRGINIA DEPARTMENT



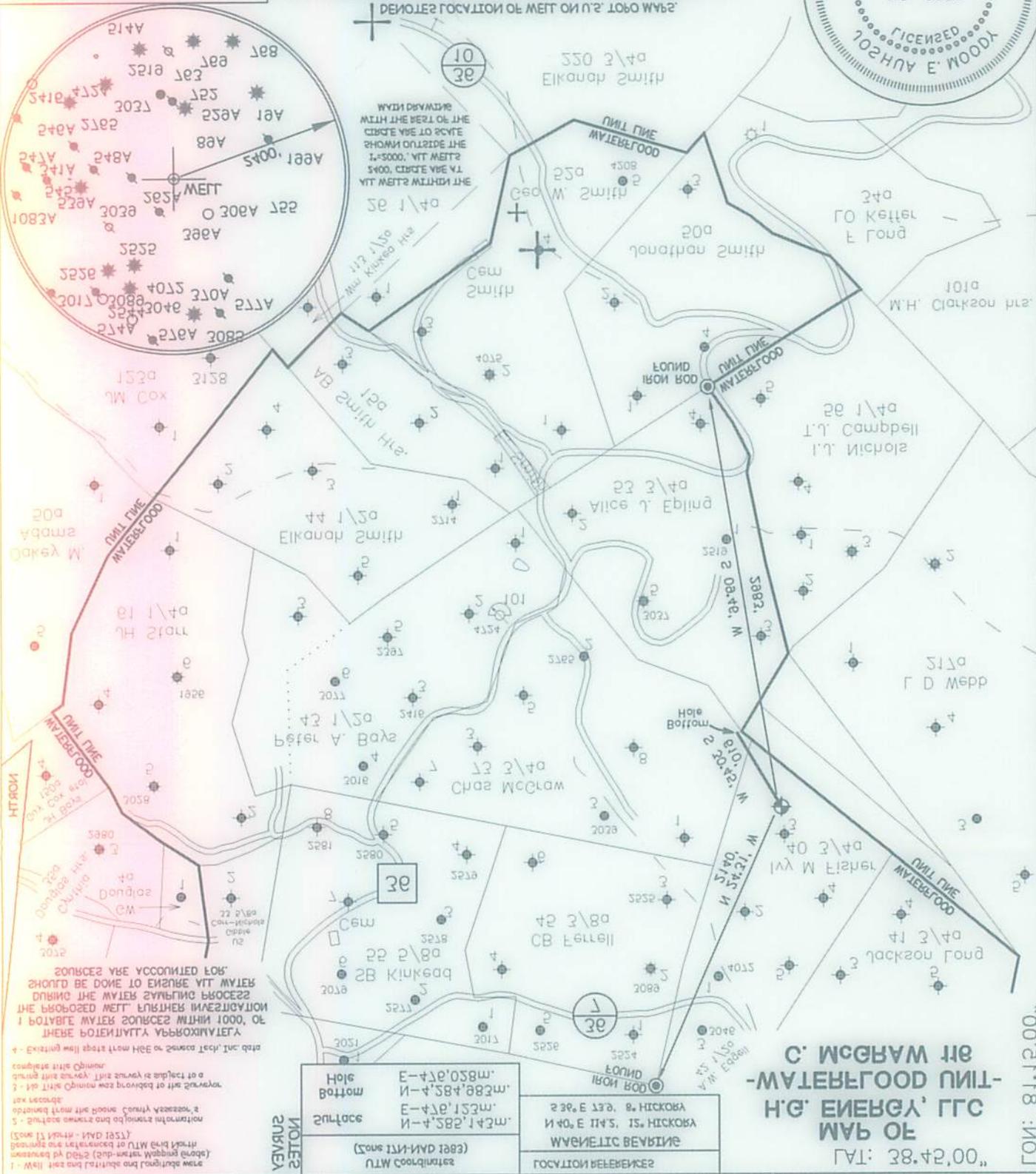
**21 WABYS, MD 21010
WOODY LAND SUBLEASING, LLC**

**OFFICE OF OIL AND GAS
OF ENVIRONMENTAL PROTECTION
WEST VIRGINIA DEPARTMENT**

C. MCGRAW # 118
OPERATOR, 2 METG
DATE 12/12/14
JOHN E. WOODY, P.E. 3030

MAPPING SCALE CBS
PROVEN SOURCE OF ELEV.
ACCURACY 1/300
MINIMUM DEGREE OF
SCALE 1" = 1000,
DRAWING # 14CGOLES FORDER
JOB # 14-033

THE DEPARTMENT OF ENVIRONMENTAL PROTECTION
REQUISIT BY LAW AND THE REGULATIONS ISSUED AND DESCRIBED BY
THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION
I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS MAP IS CORRECT TO
INDICATE LOCATION OF METG ON US TOPO MAPS



SOURCES ARE ACCURATE FOR
SHOULD BE DONE TO ENSURE ALL WATER
DURING THE WATER SAMPLING PROCESS
THE PROPOSED METG FURTHER INVESTIGATION
1 POTABLE WATER SOURCES WITHIN 1000, OF
THESE POTENTIALLY APPROXIMATELY
4 - Existing well logs from HSE are shown with data
complete with column
5 - The table shows the location of the well and the location of the well
6 - The table shows the location of the well and the location of the well
7 - The table shows the location of the well and the location of the well

| | |
|--|---|
| Notes | Location References |
| Hole Bottom E-4380538m. N-4384882m. Surface E-4381522m. N-4382142m. | 230 E 125, 8, HICKORY N 40, E 114 S, 15, HICKORY MAGNETIC BEARING |

**C. MCGRAW 118
-WATERFOOD UNIT-
H.C. ENERGY, LLC
MAP OF
DATE: 38.42, 0.00**

"11.74.54.98.74.1.38.21.3.3." (BOTTOM HOLE); "1.25.21.4.38.21.3.3." (DATE); "81.12, 0.00" (SCALE)



HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
(304) 420-1100 - Office
(304) 863-3172 - Fax

CK# 87047665
2914
650.00

January 16, 2015

Mr. Jeff McLaughlin
WVDEP
Division of Oil & Gas
601 57th Street
Charleston, West Virginia 25304

RE: Charles McGraw No. 116
Smithfield District, Roane County
West Virginia

Dear Mr. McLaughlin:

Enclosed are Forms WW-3A, WW-3B, WW-9, WW-3(B1), mylar of plat, reclamation plan, topo map and copies of the certified mailing receipts for a permit to drill an injection well. Also enclosed is our check in the amount of \$650.00 to cover the associated permit fees.

Very truly yours,

Diane C. White

Enclosures

cc: Richard Fisher – Certified
Willie King - Certified
Ed Gainer – Inspector

RECEIVED
Office of Oil and Gas

FEB 06 2015

WV Department of
Environmental Protection