



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

June 05, 2015

WELL WORK PERMIT
Secondary Recovery Well

This permit, API Well Number: 47-8704782, 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. H. STARR 107

Farm Name: FISHER, FREDDIE

API Well Number: 47-8704782

Permit Type: Secondary Recovery Well

Date Issued: 06/05/2015

Promoting a healthy environment.

06/05/2015

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.

FORM WW-3 (B)
1/12



- 1) Date: 01/19/2015
- 2) Operator's Well No. JH Starr 107
- 3) API Well No.: 47 - Roane - 04782
State County Permit
- 4) UIC Permit No. UIC2R08704AP

**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 / Gas Injection (not storage) / Waste Disposal
- 6) LOCATION: Elevation: 1097' Watershed: Laurel Fork
District: Smithfield County Roane Quadrangle Looneyville 7.5'
- 7) WELL OPERATOR: HG Energy, LLC Address 5260 Dupont Road
Parkersburg, WV 26101
- 8) DESIGNATED AGENT: Diane White Address 5260 Dupont Road
Parkersburg, WV 26101
- 9) OIL & GAS INSPECTOR TO BE NOTIFIED Name Ed Gainer Address P. O. Box 821
Spencer, WV 26201
- 10) DRILLING CONTRACTOR Name To Be Determined Upon Approval of Permit Address _____
- 11) PROPOSED WELL WORK Drill / Drill deeper / Redrill / Stimulate
Plug off old formation / Perforate new formation / Convert
Other physical change in well (specify) _____
- 12) GEOLOGIC TARGET FORMATION Big Injun Depth 2125 Feet (top) to 2145 Feet (bottom)
- 13) Estimated Depth of Completed Well, (or actual depth of existing well): 2225 TVD, 2730 TMD Feet
- 14) Approximate water strata depths: Fresh 390 Feet Salt 1625 Feet
- 15) Approximate coal seam depths: NA
- 16) Is coal being mined in the area? Yes _____ No _____
- 17) Virgin reservoir pressure in target formation 1250 psig Source Estimated
- 18) Estimated reservoir fracture pressure 2650 psig (BHFP)
- 19) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour 25 BBL Bottom hole pressure 2400 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) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL _____

23) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (CU. FT.)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For Drilling	Left In Well		
Conductor									Kinds
Fresh Water	7"	LS ST&C	17#			505'	505'	CTS	
Coal									Sizes
Intermediate									2.375" x 4.5"
Production	4 1/2"	J-55	10.5#			2690'	2690'	200 sks	Depths set
Tubing	2 3/8"	J-55	4.6#			2440'	2440'		2340'
Liners									Perforations
									Top Bottom

- 24) APPLICANT'S OPERATING RIGHTS were acquired from JH Starr
by deed _____ / lease X / other contract _____ / dated 10/22/1906 of record in the
Roane County Clerk's office in lease Book 10 Page 210

[Handwritten Signature]
3/25/15



87047825
CK# 2915 295 650.00

1) Date: January 19, 2015
 2) Operator's Well No. JH Starr 107
 3) API Well No.: 47 - -
State County Permit
 4) UIC Permit No. UIC2R08704AP

**STATE OF WEST VIRGINIA
 NOTICE OF LIQUID INJECTION OF WASTE DISPOSAL WELL WORK PERMIT APPLICATION
 FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS,**

<p>5) Surface Owner(S) To Be Served</p> <p>(a) Name <u>Freddie Fisher</u> Address <u>4513 Clay Road</u> <u>Spencer, WV 25276</u></p> <p>(b) Name <u>James Shamblin</u> Address <u>4292 Clay Road</u> <u>Spencer, WV 25276</u></p> <p>(c) Name <u> </u> Address <u> </u></p> <p>6) Inspector <u>Ed Gainer</u> Address <u>P. O. Box 821</u> <u>Spencer, WV 25276</u> Telephone <u>304-389-7582</u></p>	<p>7) (a) Coal Operator Name <u> </u> Address <u> </u></p> <p>7) (b) Coal Owner(S) With Declaration Of Record Name <u> </u> Address <u> </u></p> <p>7) (c) Coal Lessee with Declaration Of Record Name <u> </u> Address <u> </u></p>
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TO THE PERSONS 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 20 15 .

THE REASON YOU HAVE RECEIVED THESE DOCUMENTS IS THAT YOU HAVE RIGHTS REGARDING THE APPLICATION WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" ON THE REVERSE SIDE OF THE COPY OF THE APPLICATION [(FORM WW-3(B))] DESIGNATED TO YOU. HOWEVER YOU ARE NOT REQUIRED TO TAKE 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
 By: Diane White
 Its: Agent
 Signature: Diane White

87047825

7013 2630 0001 9028 9348

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	\$ 1.40
Certified Fee	3.30
Return Receipt Fee (Endorsement Required)	2.70
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 7.40

Postmark Here
 PARKERSBURG, WV
 JAN 6 2015
 USPS
 JH5107

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

PS Form 3800, August 2006 See Reverse for Instructions

7013 2630 0001 9028 9331

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	\$ 1.40
Certified Fee	3.30
Return Receipt Fee (Endorsement Required)	2.70
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 7.40

Postmark Here
 PARKERSBURG, WV
 JAN 6 2015
 USPS
 JH5107

Sent To
 James Shamblin
 Street, Apt. No.,
 or PO Box No. 4292 Clay Road
 City, State, ZIP+4
 Spencer WV 25276

PS Form 3800, August 2006 See Reverse for Instructions

06/05/2015

WW-2B1
(5-12)

Well No. J. H. Starr 107

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 contractor 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:

- * Freddie Fisher
4513 Clay Road
Spencer WV 25276
- * Caroline Miller
4326 Clay Road
Spencer WV 25276
- * James Shamblin
4292 Clay Road
Spencer WV 25276

47087047825

WW-9
Rev. 5/10

Page 210 of _____
API Number 47 - 087 - 04782
Operator's Well No. JH Starr 107

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 Laurel Fork Quadrangle Looneyville 7.5'

Elevation 1097' 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

Company Official (Typed Name) Diane White

Company Official Title Agent

Subscribed and sworn before me this 19th day of January, 20 15

S. Dianne Dulaney
My commission expires Oct. 4, 2016



06/05/2015

LEGEND

- Property Boundary
- Road
- Existing Fence
- Planned Fence
- Stream
- Open Ditch
- Rock
- North
- Buildings
- Water wells
- Drill site

- Diversion
- Spring
- Wet Spot
- Drain Pipe with size in inches
- Waterway
- Cross Drain
- Artificial Filter Strip
- Pit: cut walls
- Pit: compacted fill walls
- Area for Land Application of Pit Waste

Proposed Revegetation Treatment: Acres Disturbed 1.7 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
Tall Fescue		40
Ladino Clover		5

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

Proper sediment control should 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: _____

Title: Inspector

Date: 3/25/15

Field Reviewed?

Yes

No



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

February 19, 2015

Roger A. Cutlip and Rebecca D. Cutlip
 521 Old Turnpike Rd.
 Parkersburg, WV 26104

Dear Mr. & Mrs. Cutlip:

Re: Lease No. 61792-50 - J.H Starr well nos. 107 & 112
 Lease No. 74936-50 - P.A. Bays well no. 204
 Smithfield District, Roane County, West Virginia

HG Energy LLC has located the captioned wells approximately 100 feet from your ~~unoccupied~~^{MS} dwelling and water supply source. The West Virginia oil and gas rules and regulations provide that no well may be located nearer than 200 feet from a building or water supply source without the prior written consent of the landowner. Attached is a drawing showing the location of the P.A. Bays 204 and the J.H. Starr 107 & 112 to your unoccupied dwelling and water supply source.

HG Energy LLC respectfully requests that you grant a waiver that will allow for the drilling of the captioned within 100 feet of the unoccupied dwelling and water supply source. In consideration for your granting of this waiver HG Energy LLC will pay you the sum of \$5,000.00.

If the foregoing well location waiver meets with your approval kindly indicate same below and return this letter to the above address. The enclosed self-addressed stamped envelope has been provided for your convenience in doing it. Upon our receipt of this letter executed by you we will promptly remit to you a check in the amount of \$5,000.00. Should you have any questions regarding this well location please call me at 1-304-420-1121. Thank you for your prompt consideration to the above matter.

Yours very truly,

Mark J. Schall
 Land Operations

Agreed and Accepted this 20 of MARCH 2015.

Roger A. Cutlip

Rebecca D. Cutlip

06/05/2015

Reclamation Plan For:

PA. Bays No. 204
 J.H. Starr No. 107
 J.H. Starr No. 112

Carr Nichols Lease
 James Shamblin
 - Surface

S.B. Kinkead Lease
 James Shamblin
 - Surface

Lease Road to
 J.H. Starr No.5
 (47-087-3028)

Upgrade - 1,200' of existing driveway.
 Install new drainage and stone as needed.
 Leave road in equal or better condition
 at the conclusion of drilling operations.

Existing Commercial
 Road Approach

36

Shamblin
 Dwelling

Shamblin
 Dwelling

New Road Construction

175' of 10-15% Grade

Location Size
 -80'x175' (0.3 Ac.)

Alternate Pit

Existing Vegetative
 Filter Strip

Fisher
 Dwelling

J.H. Starr Lease
 James Shamblin
 - Surface

NOTE:
 A Waiver has been Obtained
 to drill within 200' of a dwelling.

[Handwritten Signature]
 3/25/15

Existing Farm Road

400' of 0-5% Grade

Freddie Fisher
 - Surface

New Road Construction

P.A. Bays Lease
 Caroline Miller
 - Surface

100' of 15% Grade

Barn

Alternate Pit

Existing Vegetative
 Filter Strip

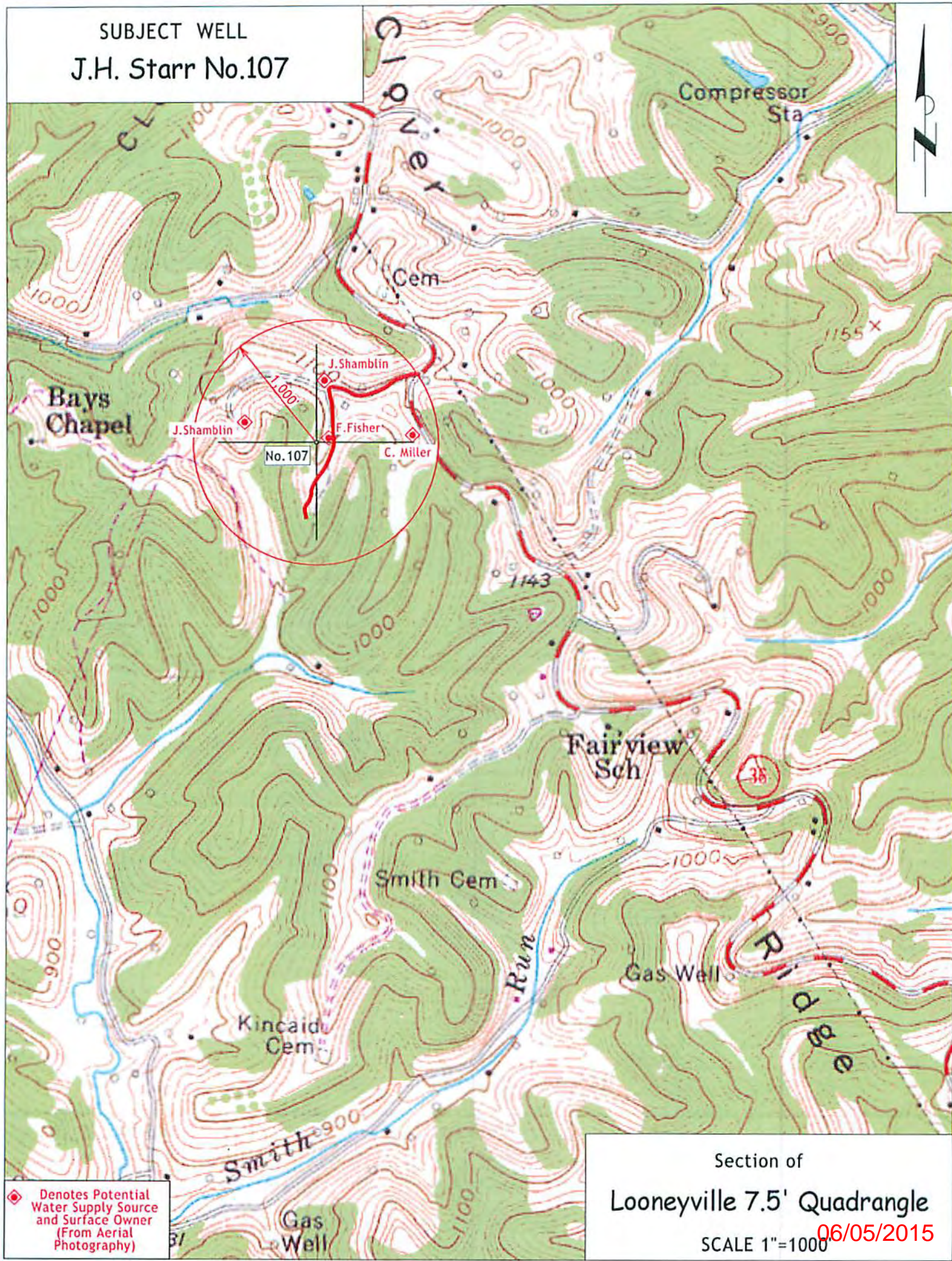
NOTE
 REFER TO THE WVDEP
 EROSION AND SEDIMENT CONTROL
 FIELD MANUAL VER. MAY 2012 FOR
 BMPs CONTROLLING EROSION AND
 SEDIMENT FROM SOIL-DISTURBING
 OPERATIONS.

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.

06/05/2015

SUBJECT WELL
J.H. Starr No.107



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

Section of
Looneyville 7.5' Quadrangle

SCALE 1"=1000

06/05/2015

87047825

(BOT. HL: LON:-81°17'20.5")

LON: -81°17'15.8"

10760'

LON: 81°15'00"

13230'

LAT: 38°42'49.2"

(BOTTOM HOLE: LAT: 38°42'55.5")

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 adjoiners 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.

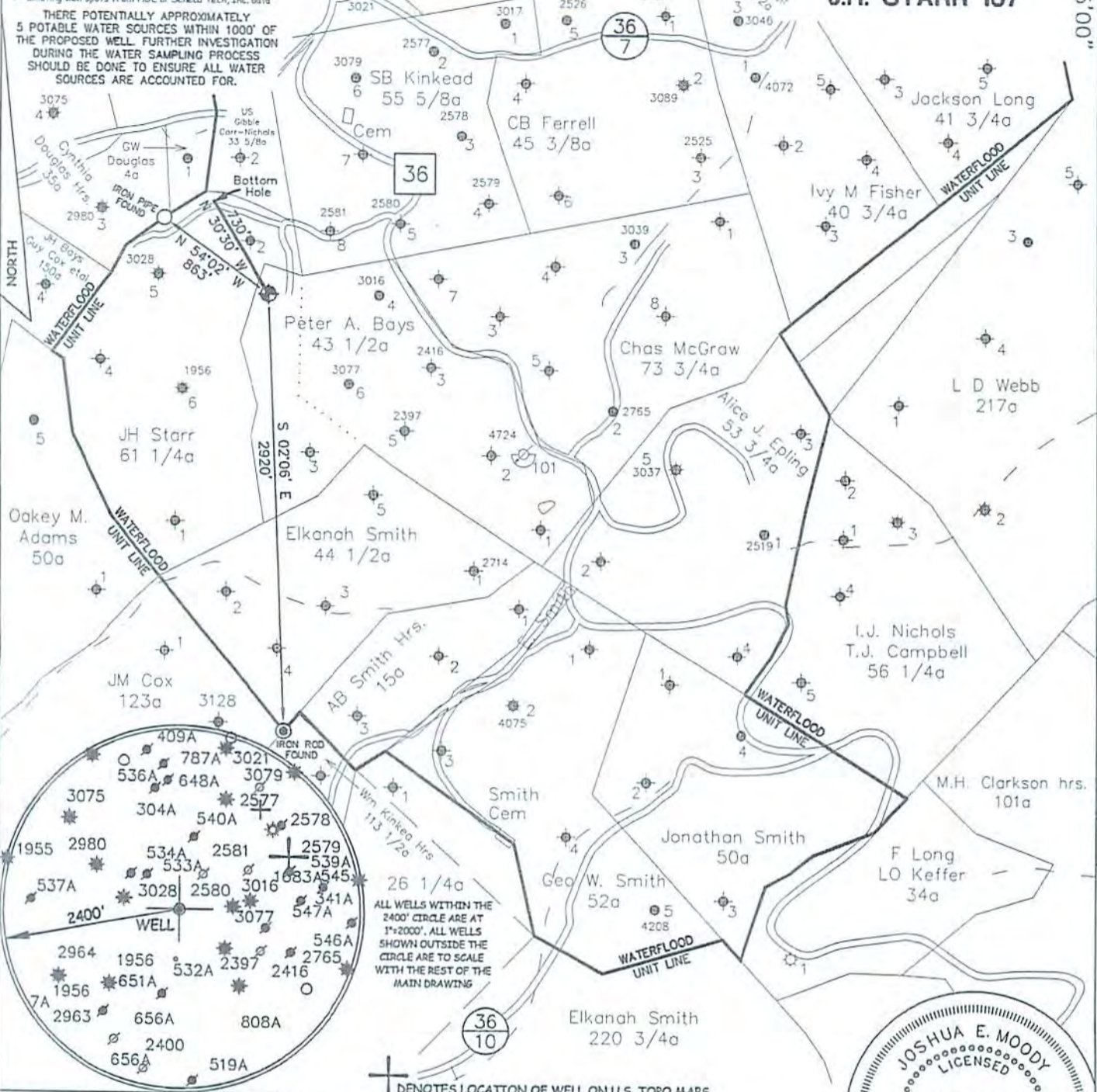
4 - Existing well spots from HGE or Seneca Tech, Inc. data

UTM Coordinates (Zone 17N-NAD 1983)	
Surface	N-4,285,053m. E-475,000m.
Bottom Hole	N-4,285,245m. E-474,887m.

LOCATION REFERENCES	
MAGNETIC BEARING	S 60° W 94.8' 15" POPLAR N 29° W 67.0' 10" RED OAK

LAT: 38°45'00"

**MAP OF
H.G. ENERGY, LLC
-WATERFLOOD UNIT-
J.H. STARR 107**



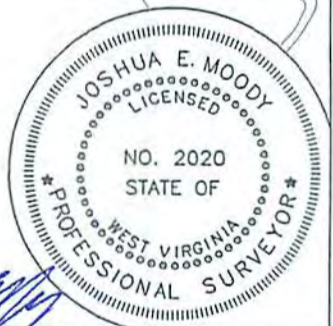
JOB # 14-033
DRAWING # 14CLOVER FOLDER
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY 1/200
PROVEN SOURCE OF ELEV. MAPPING GRADE GPS

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 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 12/15/14
OPERATOR'S WELL
J.H. STARR # 107

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 1097' WATERSHED LAUREL FORK API WELL #
DISTRICT SMITHFIELD COUNTY ROANE 47 - 087 -
QUADRANGLE LOONEYVILLE 7.5' STATE COUNTY PERMIT

SURFACE OWNER FREDDIE FISHER ET AL ACREAGE 33.00 ACRES +/-
OIL & GAS ROYALTY OWNER WILLIAM S. HAYMOND II ET AL LEASE ACREAGE 104.00 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 (N 30°30' W 730')
PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION BIG INJUN ESTIMATED DEPTH TVD=2,225' MD=2,730'
WELL OPERATOR H.G. ENERGY, LLC DESIGNATED AGENT DIANE WHITE
ADDRESS 5260 DuPONT ROAD ADDRESS 5260 DuPONT ROAD
PARKERSBURG, WV 26101 PARKERSBURG, WV 26101

06/05/2015

FORM WW-6

LEASE # 61791-50

(BOT. HL: LON:-81°17'20.5")

LON: -81°17'15.8"

10760'

LON: 81°15'00"

13230'

LAT: 38°42'49.2"

(BOTTOM HOLE: LAT: 38°42'55.5")

- 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 1983).
- 2 - Surface owners and adjacent 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

SURVEY NOTES

UTM Coordinates (Zone 17N-NAD 1983)

Surface N-4,285,053m.
E-475,000m.

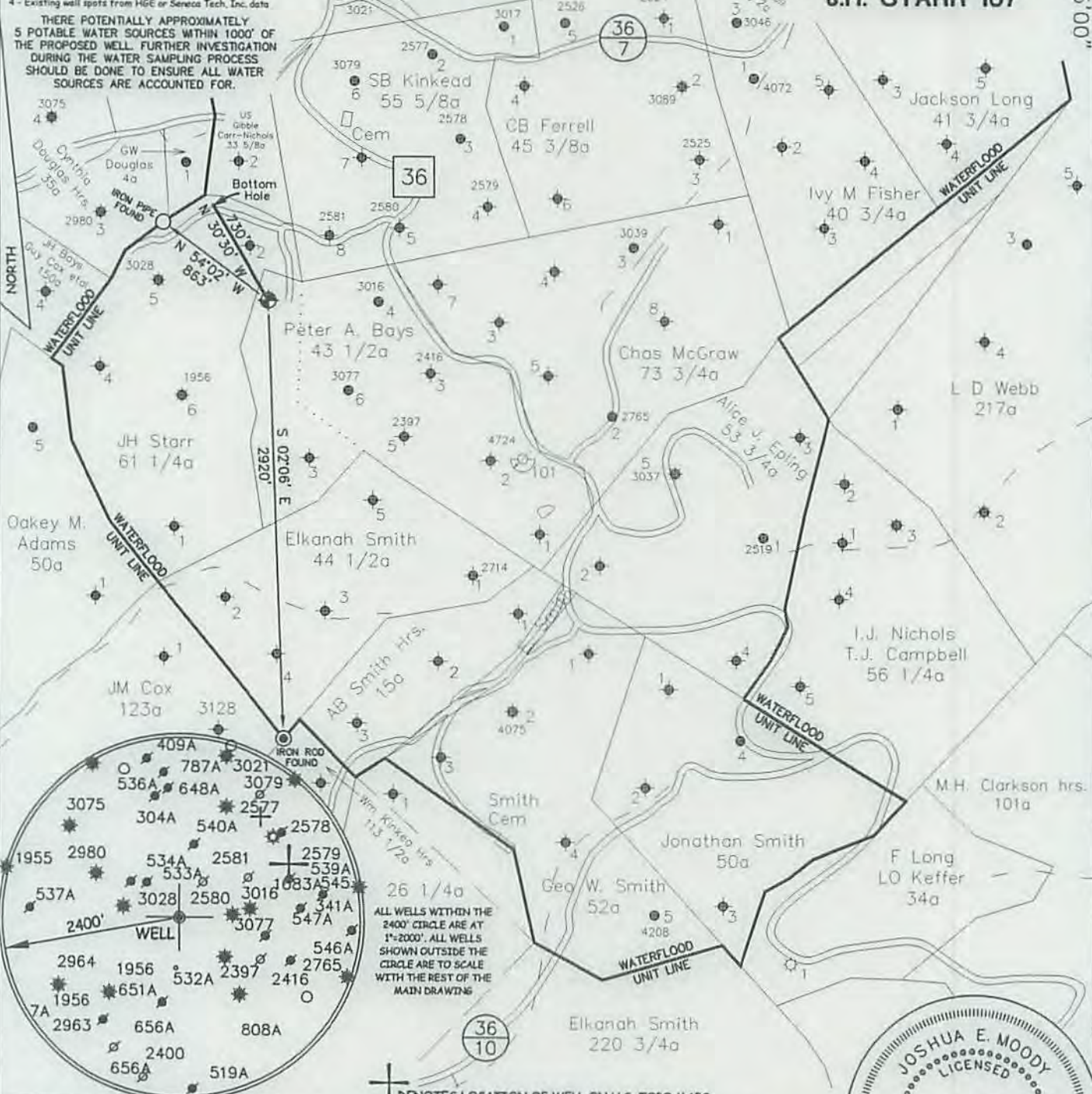
Bottom Hole N-4,285,245m.
E-474,887m.

LOCATION REFERENCES

MAGNETIC BEARING
S 60° W 94.8' 15" POPLAR
N 29° W 67.0' 10" RED OAK

LAT: 38°45'00"

**MAP OF
H.G. ENERGY, LLC
-WATERFLOOD UNIT-
J.H. STARR 107**



⊕ 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 12/15/14

OPERATOR'S WELL
J.H. STARR # 107

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

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 1097' WATERSHED LAUREL FORK API WELL #
DISTRICT SMITHFIELD COUNTY ROANE 47 - 087 - 047825
QUADRANGLE LOONEYVILLE 7.5' STATE COUNTY PERMIT

SURFACE OWNER FREDDIE FISHER ET AL ACREAGE 33.00 ACRES +/-
OIL & GAS ROYALTY OWNER WILLIAM S. HAYMOND II ET AL LEASE ACREAGE 104.00 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 (N 30°30' W 730')

PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
TARGET FORMATION BIG INJUN ESTIMATED DEPTH TVD=2,225' MD=2,730'
WELL OPERATOR H.G. ENERGY, LLC DESIGNATED AGENT DIANE WHITE
ADDRESS 5260 DuPONT ROAD ADDRESS 5260 DuPONT ROAD
PARKERSBURG, WV 26101 PARKERSBURG, WV 26101

06/05/2015