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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](http://www.dep.wv.gov)

June 05, 2015

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

This permit, API Well Number: 47-8704781, 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 112  
Farm Name: FISHER, FREDDIE

**API Well Number: 47-8704781**

**Permit Type: Secondary Recovery Well**

Date Issued: 06/05/2015

**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

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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 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](mailto:DEPOOGNotify@wv.gov) within 30 days of commencement of drilling.

47087047815

FORM WW-3 (B)  
1/12



1) Date: 01/19/2015  
2) Operator's Well No. JH Starr 112  
3) API Well No.: 47 - Roane - 04781  
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 8) DESIGNATED AGENT Diane White  
Address 5260 Dupont Road Address 5260 Dupont Road  
Parkersburg, WV 26101 Parkersburg, WV 26101  
9) OIL & GAS INSPECTOR TO BE NOTIFIED 10) DRILLING CONTRACTOR  
Name Ed Gainer Name To Be Determined Upon Approval of Permit  
Address P. O. Box 821 Address  
Spencer, WV 26201

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 Source Estimated

17) Virgin reservoir pressure in target formation 1250 psig Bottom hole pressure 2400 psi

18) Estimated reservoir fracture pressure 2650

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	Sizes
Coal									2.375" x 4.5"
Intermediate									Depths set
Production	4 1/2"	J-55	10.5#			2690'	2690'	200 sks	2340'
Tubing	2 3/8"	J-55	4.6#			2440'	2440'		Perforations
Liners									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

Received  
Office of Oil & Gas

MAR 30 2015



Received  
Office of Oil & Gas  
MAR 30 2015

PS Form 3800, August 2006 See Reverse for Instructions

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

JHS 112  
01/20/2015

Postmark Here

13 0777

Postage	\$	\$1.61
Certified Fee	\$	\$3.30
Return Receipt Fee (Endorsement Required)	\$	\$2.70
Restricted Delivery Fee (Endorsement Required)	\$	\$0.00
Total Postage & Fees	\$	\$7.61

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PS Form 3800, August 2006 See Reverse for Instructions

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

JHS 112  
01/20/2015

Postmark Here

13 0777

Postage	\$	\$1.61
Certified Fee	\$	\$3.30
Return Receipt Fee (Endorsement Required)	\$	\$2.70
Restricted Delivery Fee (Endorsement Required)	\$	\$0.00
Total Postage & Fees	\$	\$7.61

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7013 2630 0001 9028 9300

7013 2630 0001 9028 9355

87047815

WW-2B1  
(5-12)

Well No. J. H. Starr 112

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 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, 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

Received  
Office of Oil & Gas

MAR 30 2015

47087047815

WW-9  
Rev. 5/10

Page 210 of \_\_\_\_\_  
API Number 47 - 087 - 04781  
Operator's Well No. JH Starr 112

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

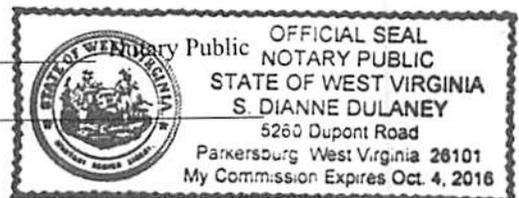
Company Official (Typed Name) Diane White

Company Official Title Agent

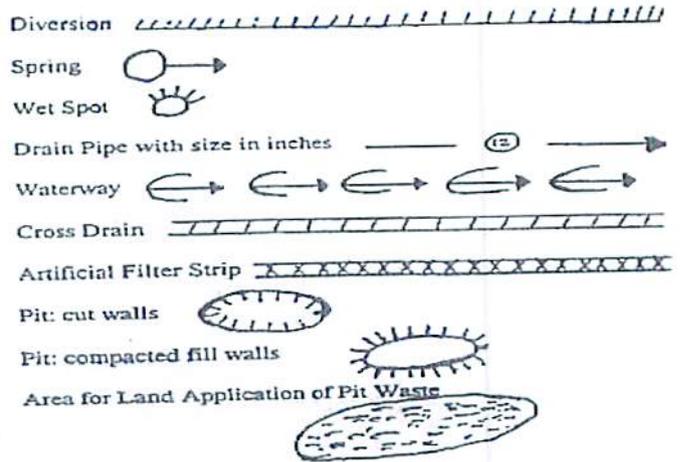
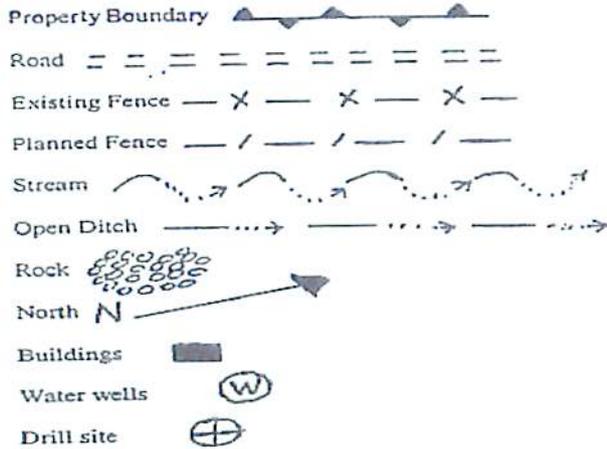
Received  
Office of Oil & Gas  
MAR 30 2015

Subscribed and sworn before me this 19th day of January, 2015

[Signature]  
My commission expires Oct. 4, 2016



LEGEND



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.

Received  
Office of Oil & Gas

MAR 30 2015

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~~<sup>MS</sup> 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

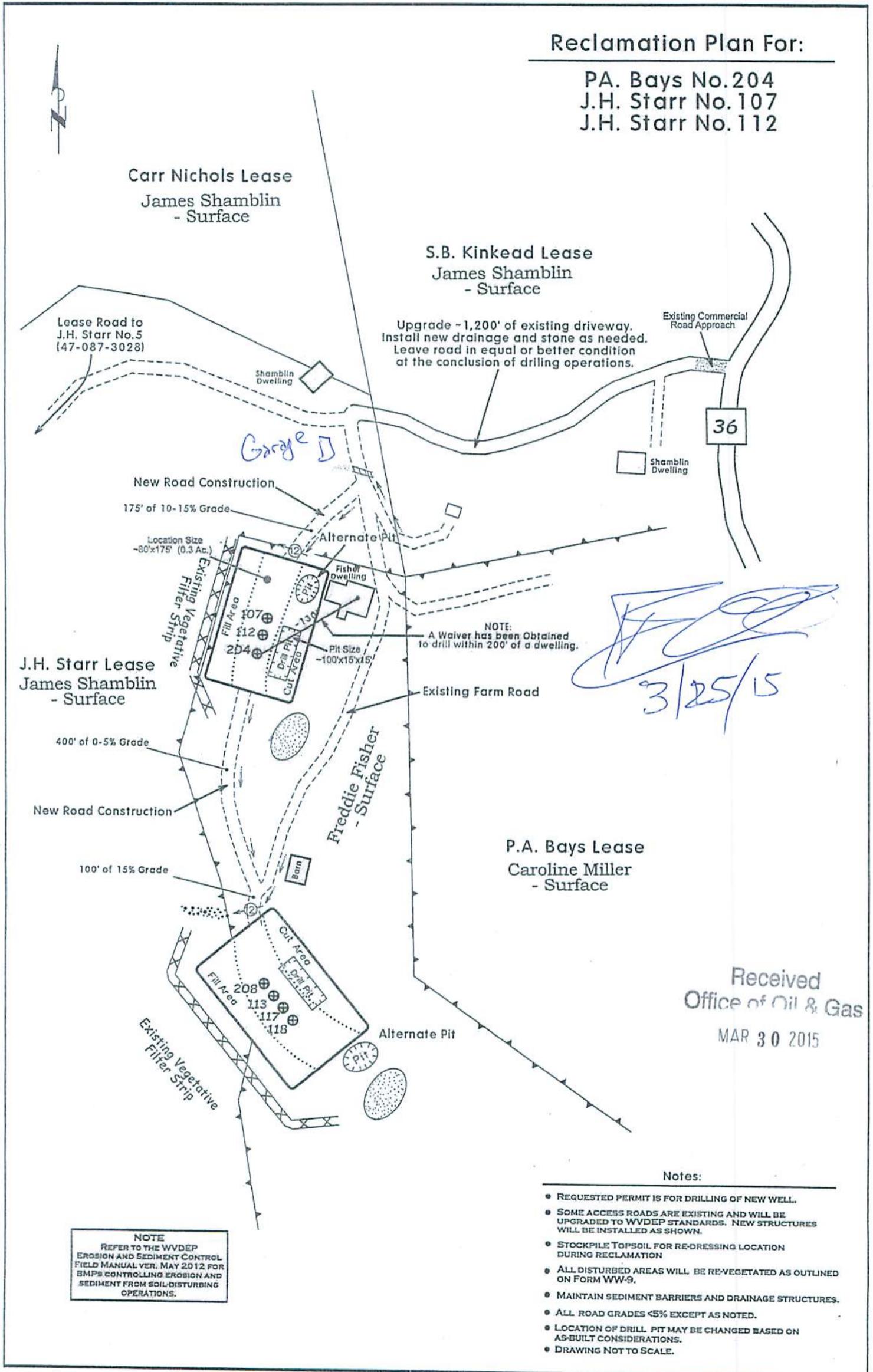
Agreed and Accepted this 20 of MARCH 2015.

Roger A. Cutlip

Rebecca D. Cutlip

Reclamation Plan For:

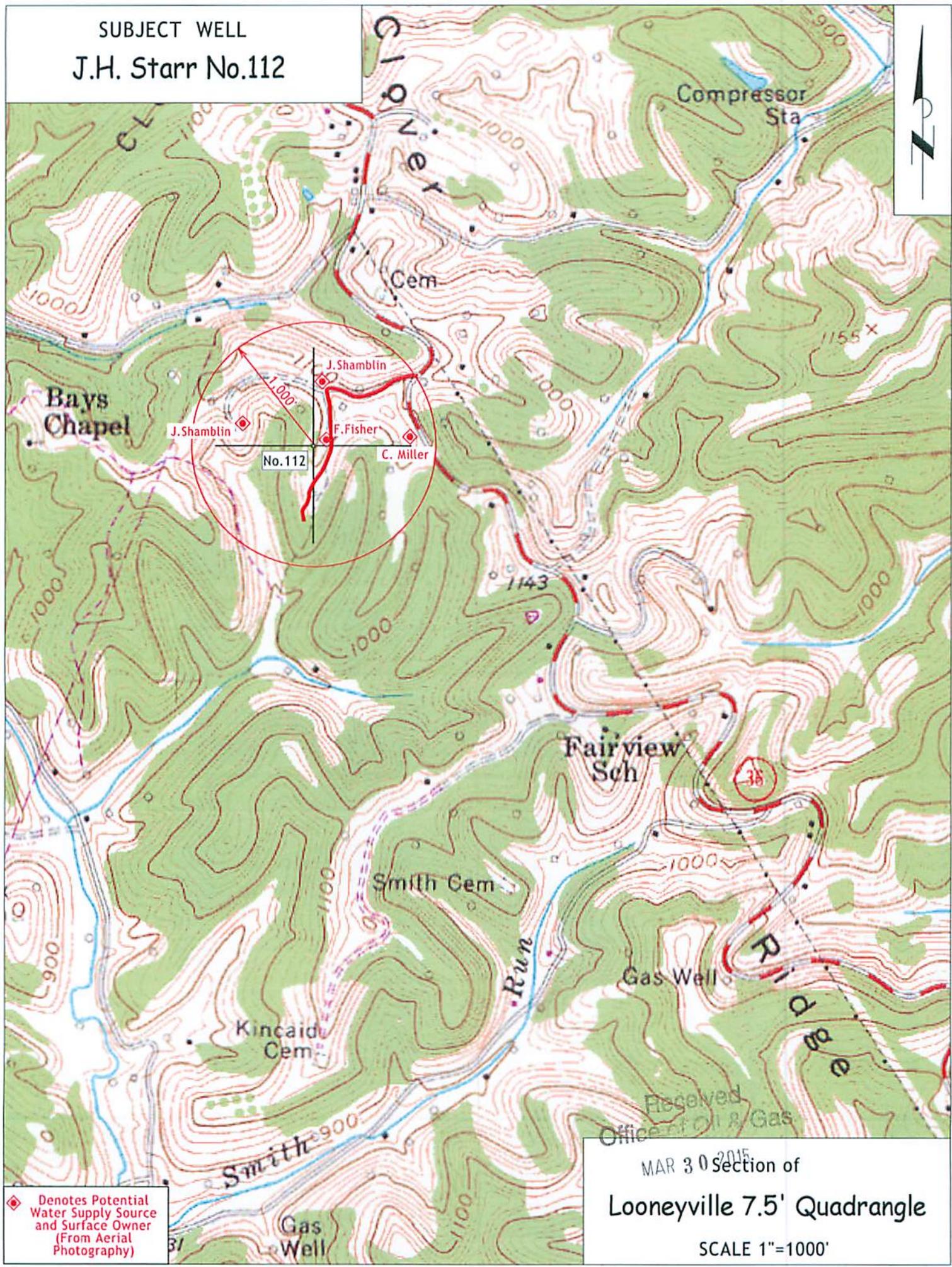
PA. Bays No. 204  
 J.H. Starr No. 107  
 J.H. Starr No. 112



**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.

SUBJECT WELL  
J.H. Starr No.112



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

Received  
Office of Oil & Gas

MAR 30 2015 Section of  
Looneyville 7.5' Quadrangle

SCALE 1"=1000'

8704781 S

(BOT. HL: LON:-81°17'23.7")

LON: -81°17'15.8"

-10770'

LAT: 38°45'00"

# MAP OF H.G. ENERGY, LLC -WATERFLOOD UNIT- J.H. STARR 112

LON: 81°15'00"

13240'

LAT: 38°42'49.1"

(BOTTOM HOLE: LAT:38°42'45.6")

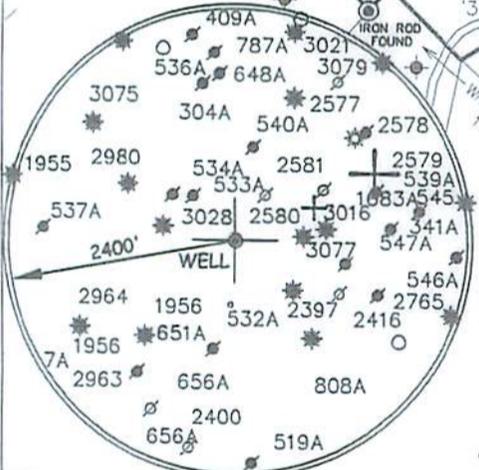
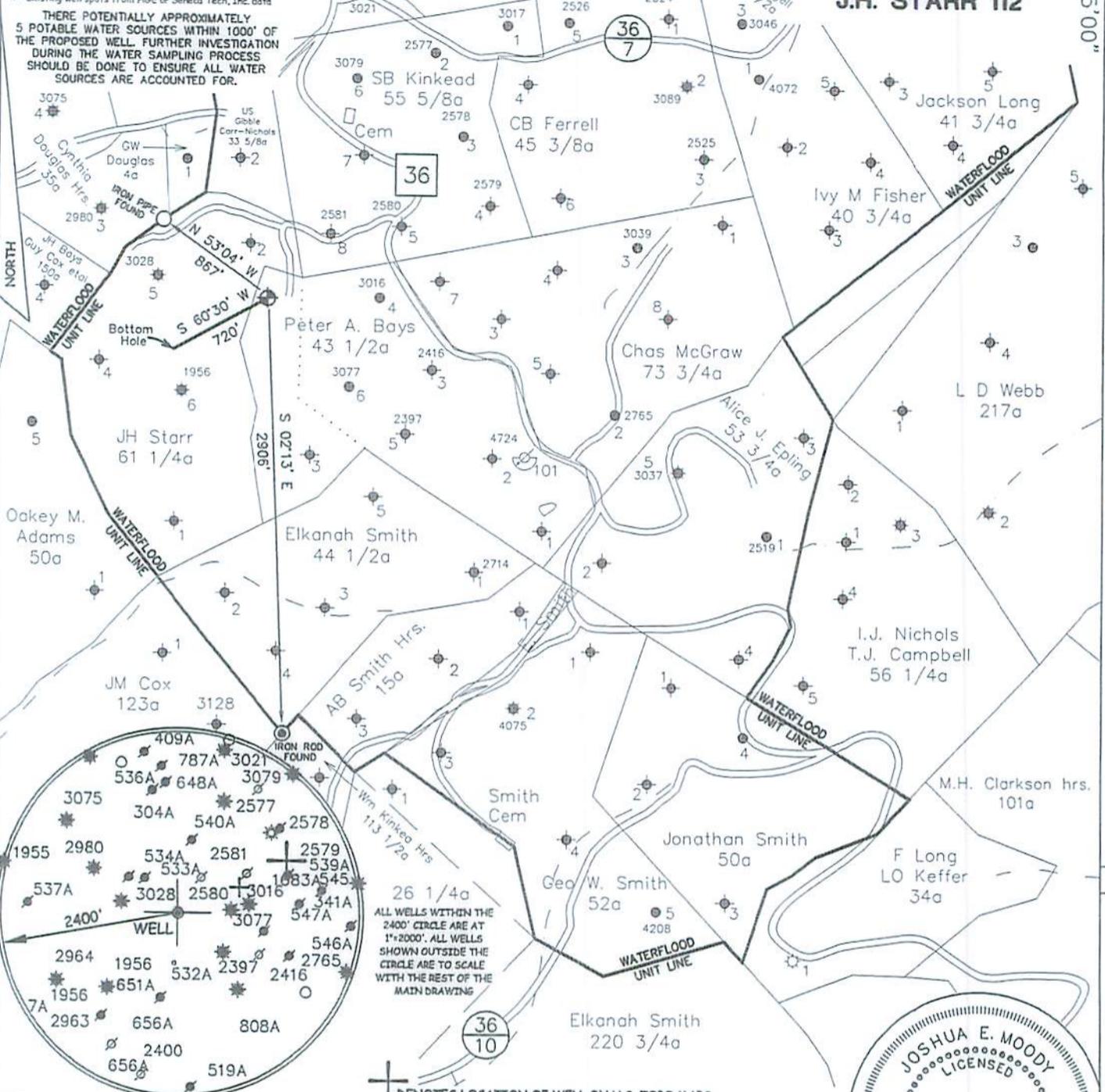
- SURVEY NOTES**
- 1 - Well ties and Latitude and Longitude were measured by DGPS (Sub-meter Mapping Grade). Bearings are referenced to UTM Grid North (Zone 17 North - NAD 1983).
  - 2 - Surface owners and adjoiners information obtained from the Roane County Assessor's tax records.
  - 3 - No Title Opinion 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-4,285,049m. E-474,998m.
Bottom Hole	N-4,284,941m. E-474,807m.

**LOCATION REFERENCES**

**MAGNETIC BEARING**  
S 65° W 82.8' 15" POPLAR  
N 19° W 75.8' 10" RED OAK



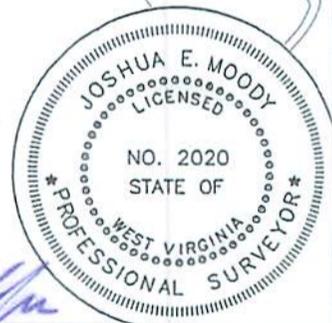
⊕ DENOTES LOCATION OF WELL ON U.S. TOPO MAPS.

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

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

DATE 12/15/14  
 OPERATOR'S WELL J.H. STARR # 112

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  HORIZONTAL   
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 1097' WATERSHED LAUREL FORK API WELL # 47-087  
 DISTRICT SMITHFIELD COUNTY ROANE STATE 47 COUNTY 087 PERMIT           
 QUADRANGLE LOONEYVILLE 7.5'

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 (S 60°30' W 720')  
 PLUG & ABANDON  CLEAN OUT & REPLUG   
 TARGET FORMATION BIG INJUN  
 WELL OPERATOR H.G. ENERGY, LLC ESTIMATED DEPTH TVD=2,225' MD=2,730'  
 ADDRESS 5260 DuPONT ROAD DESIGNATED AGENT DIANE WHITE  
PARKERSBURG, WV 26101 ADDRESS 5260 DuPONT ROAD  
PARKERSBURG, WV 26101 LEASE # 61791-50

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 MAR 30 2015

COUNTY NAME PERMIT

