



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

July 06, 2015

WELL WORK PERMIT

Secondary Recovery Well

This permit, API Well Number: 47-4303490, 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: EPHRAIM GRIFFITH 133
Farm Name: BENDER, JASON & ASHLEY
API Well Number: 47-4303490

Permit Type: Secondary Recovery Well

Date Issued: 07/06/2015

Promoting a healthy environment.

07/10/2015

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: _____
 2) Operator's Well No. Ephraim Griffith 133
 3) API Well No.: 47 - Lincoln - s 03490
State County Permit
 4) UIC Permit No. UIC2R04301AP

**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: 725' Watershed: Porter Fork
 District: Duval County Lincoln Quadrangle Griffithsville 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 Jeremy James Name To Be Determined Upon Approval of Permit
 Address P. O. Box 147 Address _____
Ona, WV 25545

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 Berea Depth 2665 Feet (top) to 2682 Feet (bottom)
 13) Estimated Depth of Completed Well, (or actual depth of existing well): 2903 TMD Feet
 14) Approximate water strata depths: Fresh 150 Feet Salt 1000 Feet
 15) Approximate coal seam depths: 200
 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	<i>RDT 04/23/15</i>
Fresh Water	7"	LS	17#	X		300'	300'	CTS	Sizes	
Coal									2.375" x 4.5"	
Intermediate									Depths set	
Production	4 1/2"	J-55	10.5#	X		2853'	2853'	150 sks	2350'	
Tubing	2 3/8"	J-55	4.6#	X		2465'	2465'			
Liners									Perforations	
									Top Bottom	

24) APPLICANT'S OPERATING RIGHTS were acquired from Ephraim Griffith
 by deed _____ / lease X / other contract _____ / dated 06/04/1904 of record in the
Lincoln County Clerk's office in lease Book 36 Page 67

Received
Office of Oil & Gas
 MAY 13 2015

WW-2B1
(5-12)

Well No. Ephraim Griffith 133

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 Labs
Sampling Contractor Sturm Environmental Labs

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.

- See Attached Sheet -

Received
Office of Oil & Gas
MAY 13 2015

07/10/2015

West Virginia Department of Environmental Protection
Office of Oil and Gas

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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.

Surface Owners Identified With Water Sources to be Sampled and Tested:

- | | |
|---|---|
| * Edward Price
4850 Midway Road
Yawkey, WV 25573 | * Jackie Stowers
4818 Midway Road
Yawkey, WV 25573 |
| * Jeremy McClung
1754 Midway Road
Sumerco, WV 25567 | * Earl Ryan
4797 Midway Road
Yawkey, WV 25573 |
| * Garland Adkins
5249 Straight Fork Road
Griffithsville, WV 25521 | * DAVIS Brothers, LLC
P. O. Box 11
Sumerco, WV 25567 |
| * Joann McMellon
4642 Midway Road
Yawkey, WV 25573 | * Delphia Tudor
4689 Midway Road
Yawkey, WV 25573 |
| * Wilford Bird
4622 Midway Road
Yawkey, WV 25573 | * Jason Bender
20 Open Harvest Drive
Yawkey, WV 25573 |
| * Mary Pauley
221 Bowie Street
St Albans, WV 25177 | |

Received
Office of Oil & Gas
MAY 13 2015

07/10/2015

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 Porter Fork Quadrangle Griffithville 7.5'

Elevation 725' County Lincoln District Duval

Description of anticipated Pit Waste: Fluids accumulated while drilling the 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 _____)
- 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 and 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

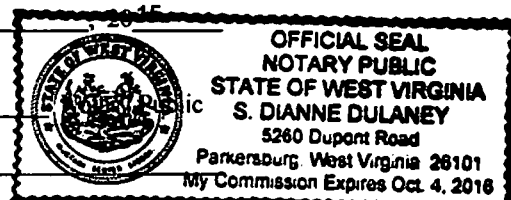
Company Official Title Agent

Received
Office of Oil & Gas
MAY 13 2015

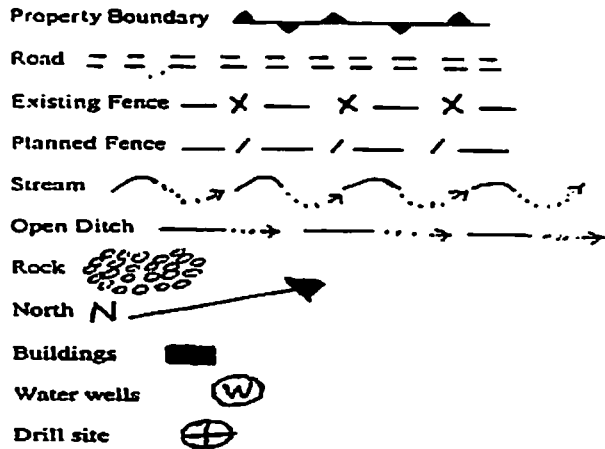
Subscribed and sworn before me this 10th day of April

[Signature]

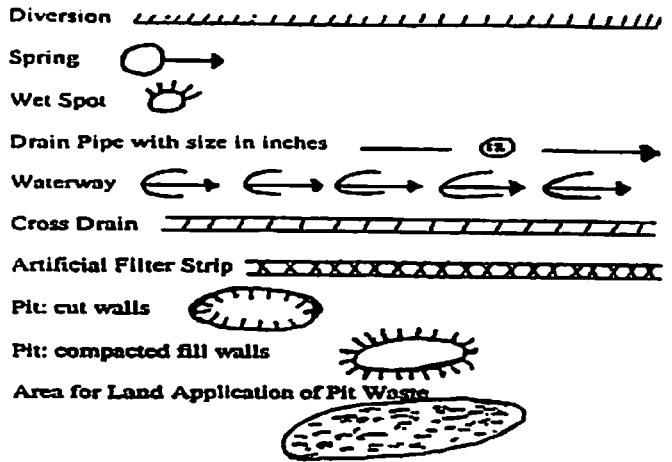
My commission expires Oct. 4, 2016



07/10/2015



LEGEND



Proposed Revegetation Treatment: Acres Disturbed 1.0 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 1 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

****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

Plan Approved by: Ralph D. Trippe

MAY 13 2015

Comments: _____

Title: District Inspector

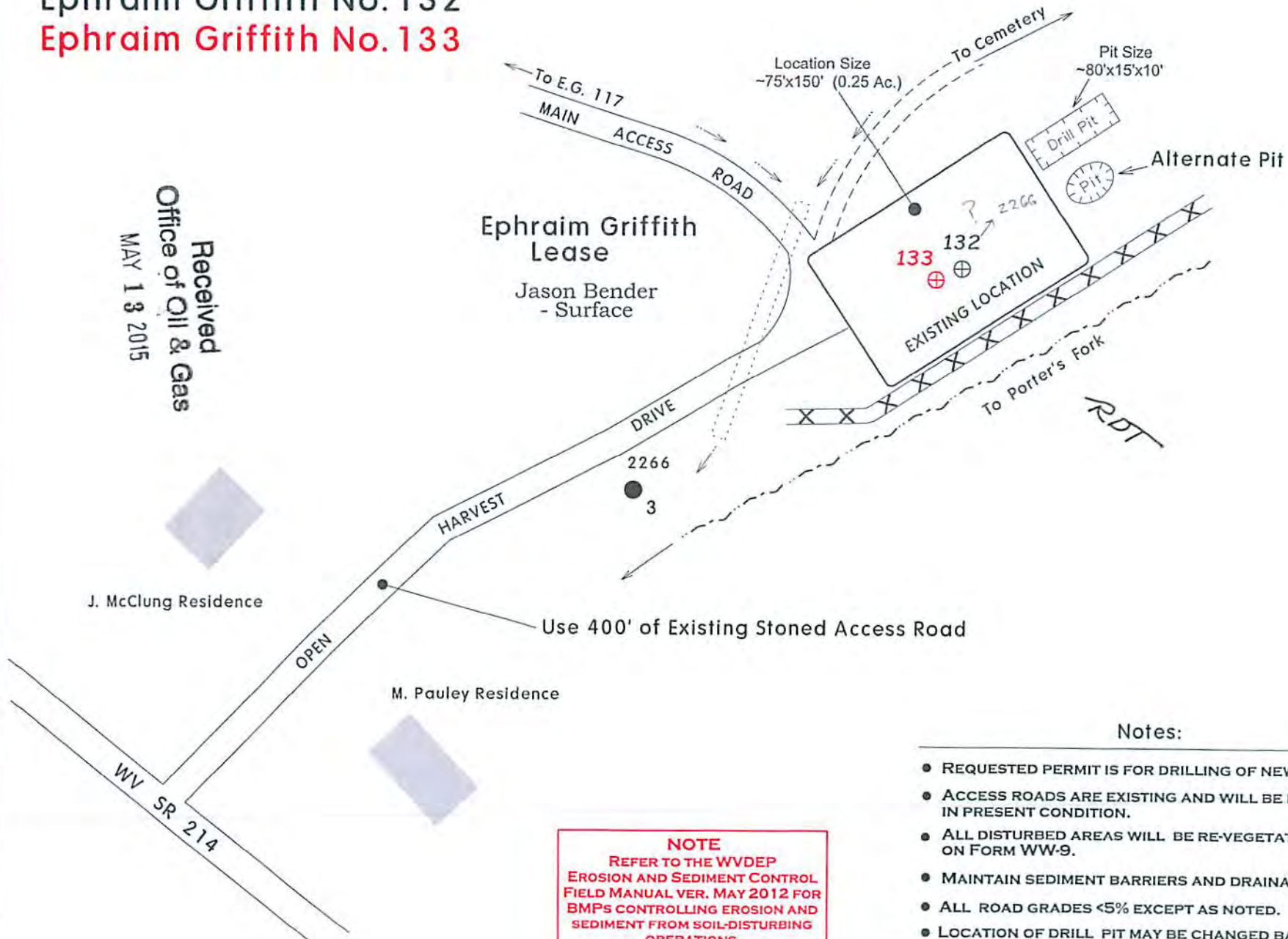
Date: April 23, 2015

Field Reviewed? Lincoln Yes No

Reclamation Plan For:
 Ephraim Griffith No. 132
 Ephraim Griffith No. 133



Received
 Office of Oil & Gas
 MAY 13 2015



J. McClung Residence

M. Pauley Residence

Use 400' of Existing Stoned Access Road

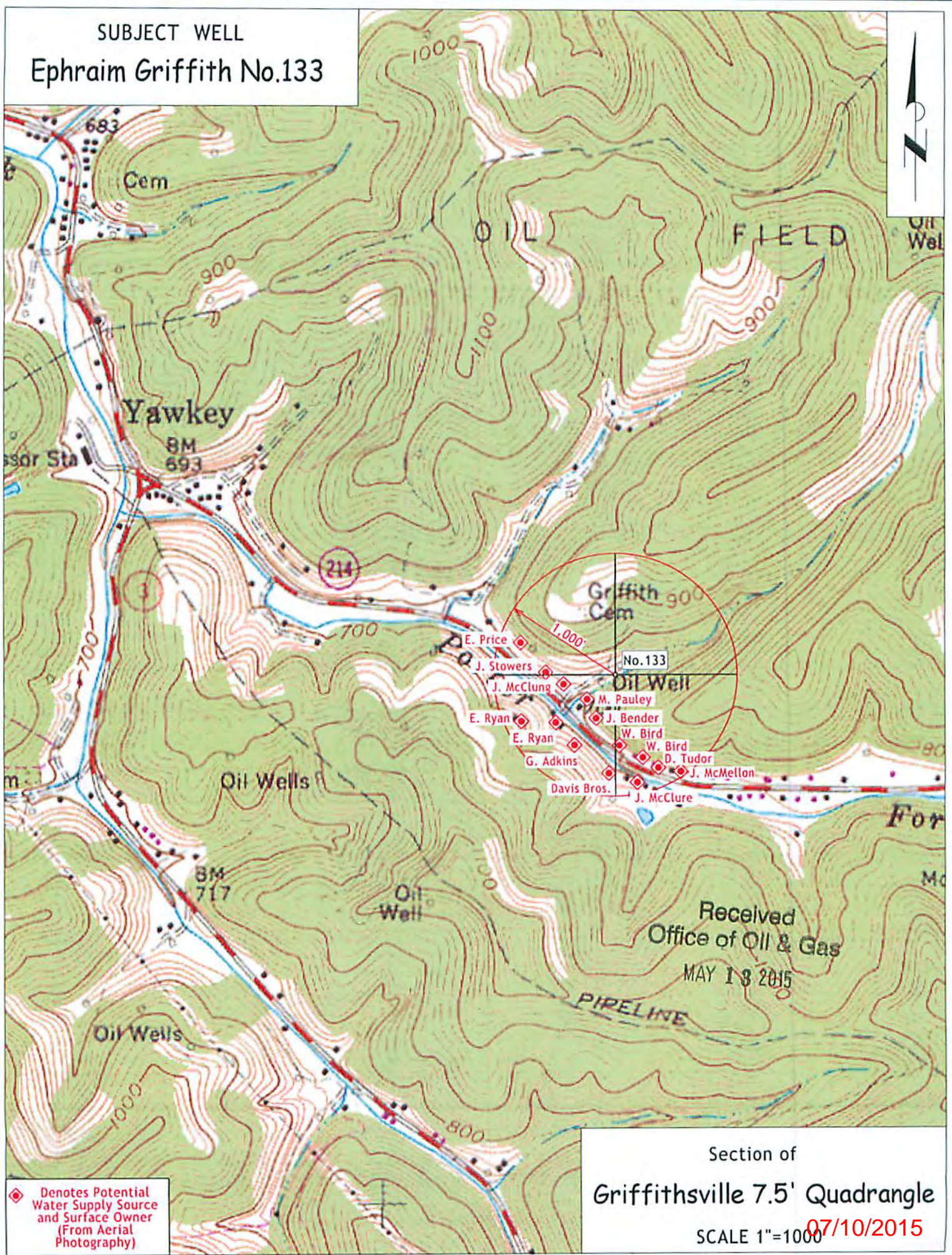
NOTE
 REFER TO THE WVDEP
 EROSION AND SEDIMENT CONTROL
 FIELD MANUAL VER. MAY 2012 FOR
 BMPs CONTROLLING EROSION AND
 SEDIMENT FROM SOIL-DISTURBING
 OPERATIONS.

Notes:

- REQUESTED PERMIT IS FOR DRILLING OF NEW WELL.
- ACCESS ROADS ARE EXISTING AND WILL BE MAINTAINED IN PRESENT CONDITION.
- 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.

43034905

SUBJECT WELL
Ephraim Griffith No.133



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

Section of
Griffithville 7.5' Quadrangle
SCALE 1"=1000
07/10/2015

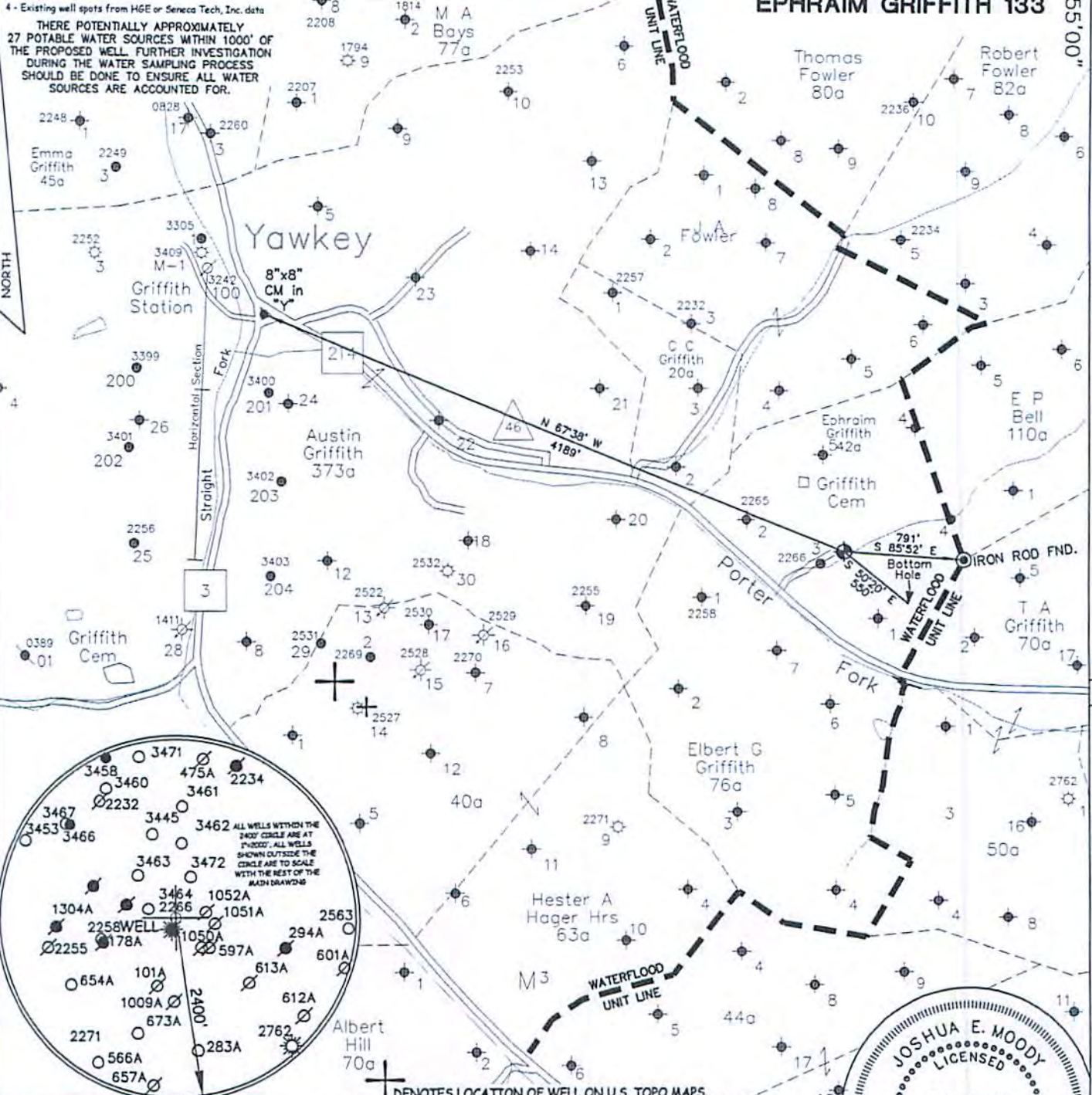
(BOT. HL: LON:-81°57'01.0") LON: -81°57'06.3" 10080' LAT:38°15'00" LON:81°55'00" 10770' LAT:38°13'13.6" (BOTTOM HOLE: LAT:38°13'10.1")

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 1983).
- 2 - Surface owners and adjacent information obtained from the Lincoln 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)		LOCATION REFERENCES	
Surface	N-4,230,711m. E-416,701m.	MAGNETIC BEARING N13° E 65' SD DROP POLE N44° W 51' SD POWER POLE	
Bottom Hole	N-4,230,604m. E-416,830m.		

**MAP OF
H.G. ENERGY, LLC
-WATERFLOOD UNIT-
EPHRAIM GRIFFITH 133**



(BOT. HL: LON: -81°57'01.0")

LON: -81°57'06.3" 10080'

LAT: 38°15'00"

LON: 81°55'00"

10770'

LAT: 38°13'13.6"

(BOTTOM HOLE: LAT: 38°13'10.1")

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).

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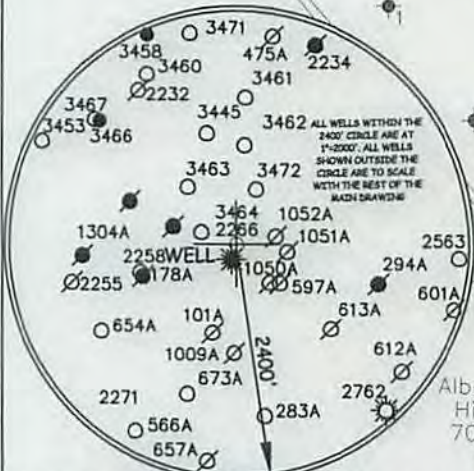
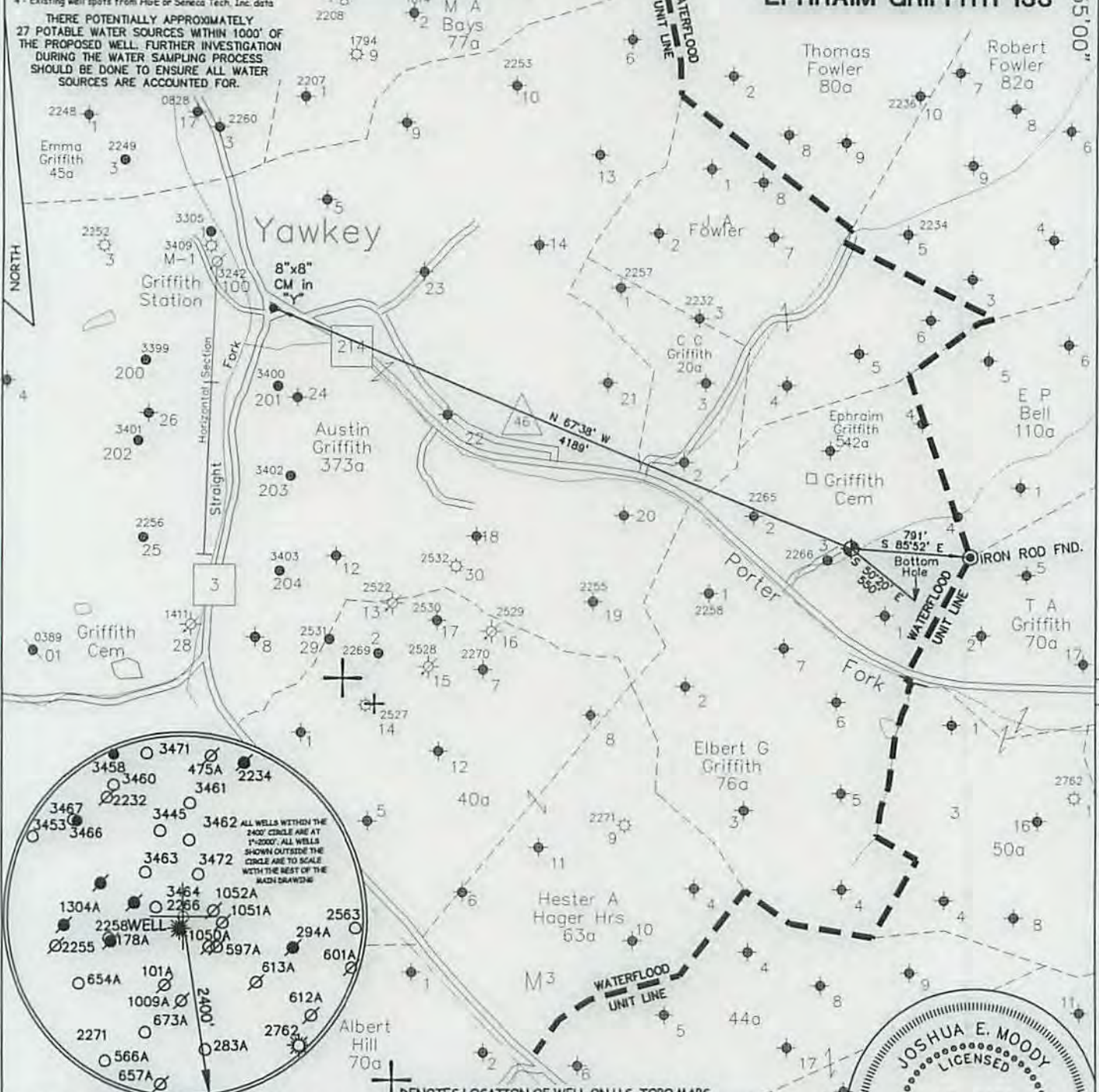
Surface N-4,230,711m.
E-416,701m.

Bottom Hole N-4,230,604m.
E-416,830m.

LOCATION REFERENCES

MAGNETIC BEARING
N 13° E 65' SD DROP POLE
N 44° W 51' SD POWER POLE

**MAP OF
H.G. ENERGY, LLC
-WATERFLOOD UNIT-
EPHRAIM GRIFFITH 133**



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



JOB # 14-023
DRAWING # 15HG LC 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 3/10/15
OPERATOR'S WELL
EPHRAIM GRIFFITH # 133

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 725' WATERSHED PORTER FORK API WELL # 47-43-03490 S
DISTRICT DUVAL COUNTY LINCOLN STATE WV COUNTY PERMIT
QUADRANGLE GRIFFITHSVILLE 7.5'

SURFACE OWNER JASON & ASHLEY BENDER ACREAGE 152.13 ACRES +/-
OIL & GAS ROYALTY OWNER HG ENERGY, LLC ET AL LEASE ACREAGE 42 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 50°20' E 550')
PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION BEREA ESTIMATED DEPTH TVD=2,370' MD=2,903'
WELL OPERATOR H.G. ENERGY, LLC DESIGNATED AGENT D. WHITE
ADDRESS 5260 DuPONT ROAD ADDRESS 5260 DuPONT ROAD
PARKERSBURG, WV 26101 PARKERSBURG, WV 26101

07/10/2015

T
now

✓

Operator: HG ENERGY, LLC API: 4303490

WELL No: EPHRAIM GRIFFITH 133

Reviewed by: gwm Date: 7/2/15

15 Day End of Comment: 05/29/15

CHECKLIST FOR FILING A PERMIT

Secondary Recovery Well

Ck# 2999
\$650⁰⁰

- WW-2B
- Inspector signature on WW-2B
- ~~WW-3A (Notarized)~~
- Certified Mail Receipts, Waivers, or Affidavits of Personal Service
- Surface Owner Waiver
- Coal Owner / Lessee /Operator Waiver
- ~~WW-3B (Signed) Showing Book/Page Number and Royalty Percentage~~
- WW-2B-1 (Names, addresses, and spot on topographical map listed as water testing)
- WW-9 (Page 1 & 2) (Notarized)
- NO** More than 5,000 bbls
- Inspector Signature on WW-9
- Reclamation plan
- Topographic Map of location of well
- Mylar Plat (Signed and Sealed) (Surface owner on plat matches WW-2A)
- Bond
- Company is Registered with the SOS
- Worker's Compensation / Unemployment Insurance account is OK
- \$650.00 check (~~\$550.00~~ if no pit)
- Mine Data
- Addendum
- Flow Distance to Nearest Intake
- Horizontal Rule Series 8 Effective August 30, 2011-Well Sites Greater Than 3 Acres
 - Erosion and Sediment Control Plan
 - Site Construction Plan
 - Well Site Safety Plan
- Water Management Plan (Plan to withdraw 210,000 gallons or more during any one month period)
- Within a Municipality
 - Class I Legal Advertisement in Newspaper for first permit on well pad
- Professional Engineer/Company has COA

430 34905

7014 0510 0000 4074 7075

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 Jason & Ashley Bender
 Street, Apt. No., or PO Box No. 20 Open Harvest Drive
 City, State, ZIP+4 Yawkey, WV 25573

PS Form 3800, August 2006 See Reverse for Instructions

7014 0510 0000 4074 7068

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 Jeremy & Sarah McClung
 Street, Apt. No., or PO Box No. 1754 Midway Road
 City, State, ZIP+4 Summerco, WV 25567

PS Form 3800, August 2006 See Reverse for Instructions

Received
Office of Oil & Gas
MAY 13 2015

07/10/2015