



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 30, 2015

WELL WORK PERMIT
Secondary Recovery Well

This permit, API Well Number: 47-4303483, 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 132
Farm Name: BENDER, JASON & ASHLEY
API Well Number: 47-4303483
Permit Type: Secondary Recovery Well
Date Issued: 06/30/2015

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 132
 3) API Well No.: 47 - Lincoln - s
 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 Griffithville 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 2707 Feet (top) to 2724 Feet (bottom)

13) Estimated Depth of Completed Well, (or actual depth of existing well): 2942 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		Kinds	Sizes
Conductor										
Fresh Water	7"	LS	17#	X		300'	300'	CTS		
Coal										
Intermediate										2.375" x 4.5"
Production	4 1/2"	J-55	10.5#	X		2892'	2892'	150 sks		Depths set
Tubing	2 3/8"	J-55	4.6#	X		2507'	2507'			2400'
Liners										Perforations
										Top Bottom

RDT
04/23/15

24) APPLICANT'S OPERATING RIGHTS were acquired from Ephraim Griffith
 by deed _____ / lease X / other contract _____ / dated 00/00/1905 06/04/1904 of record in the
Lincoln County Clerk's office in lease Book 36 Page 67

APR 27 2015

43034835

WW-2B1
(5-12)

Well No. Ephraim Griffith 132

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

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Office of Oil and Gas
WV Dept. of Environmental Protection

07/03/2015

West Virginia Department of Environmental Protection
Office of Oil and Gas

NOTICE TO SURFACE OWNERS

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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

APR 27 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 APR 27 2015

Company Official (Typed Name) Diane White

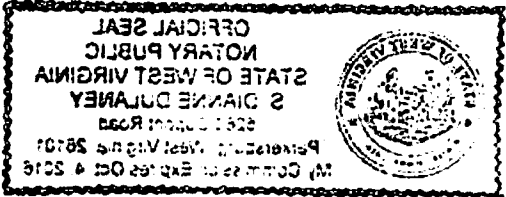
Company Official Title Agent

Office of Oil and Gas
WV Dept. of Environmental Protection

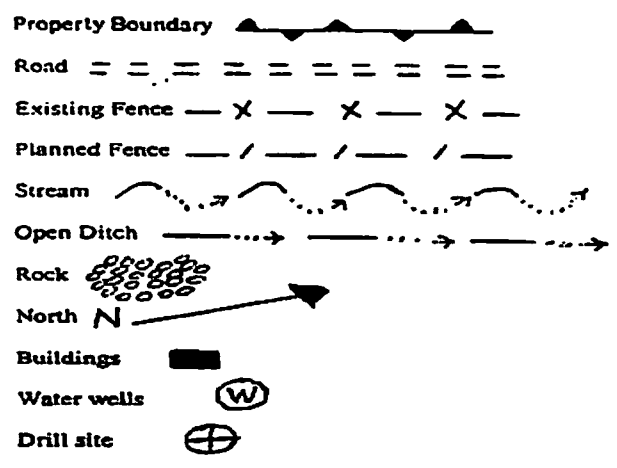
Subscribed and sworn before me this 10th day of April

[Signature]
My commission expires Oct. 4, 2016

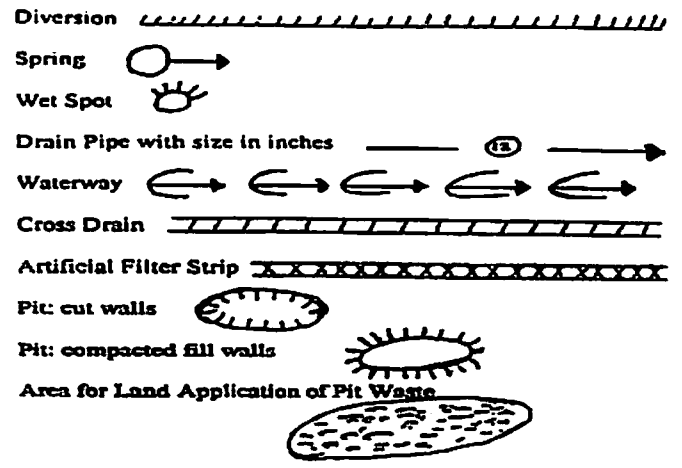




07/03/2015



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

APR 27 2015

Plan Approved by: Ralph D. Triplett

Office of Oil and Gas
WV Dept. of Environmental Protection

Comments: _____

Title: District Inspector

Date: April 23, 2015

Field Reviewed? Lincoln Yes No

43034835

Reclamation Plan For:

Ephraim Griffith No. 132 Ephraim Griffith No. 133



Office of Oil and Gas
WV Dept. of Environmental Protection

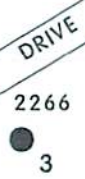
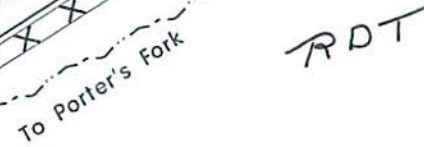
APR 27 2015

Received

Ephraim Griffith Lease
Jason Bender
- Surface

Location Size
~75'x150' (0.25 Ac.)

Pit Size
~80'x15'x10'



Use 400' of Existing Stoned Access Road

J. McClung Residence

M. Pauley Residence

OPEN

WV SR 214

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.

43034835

Received

APR 27 2015

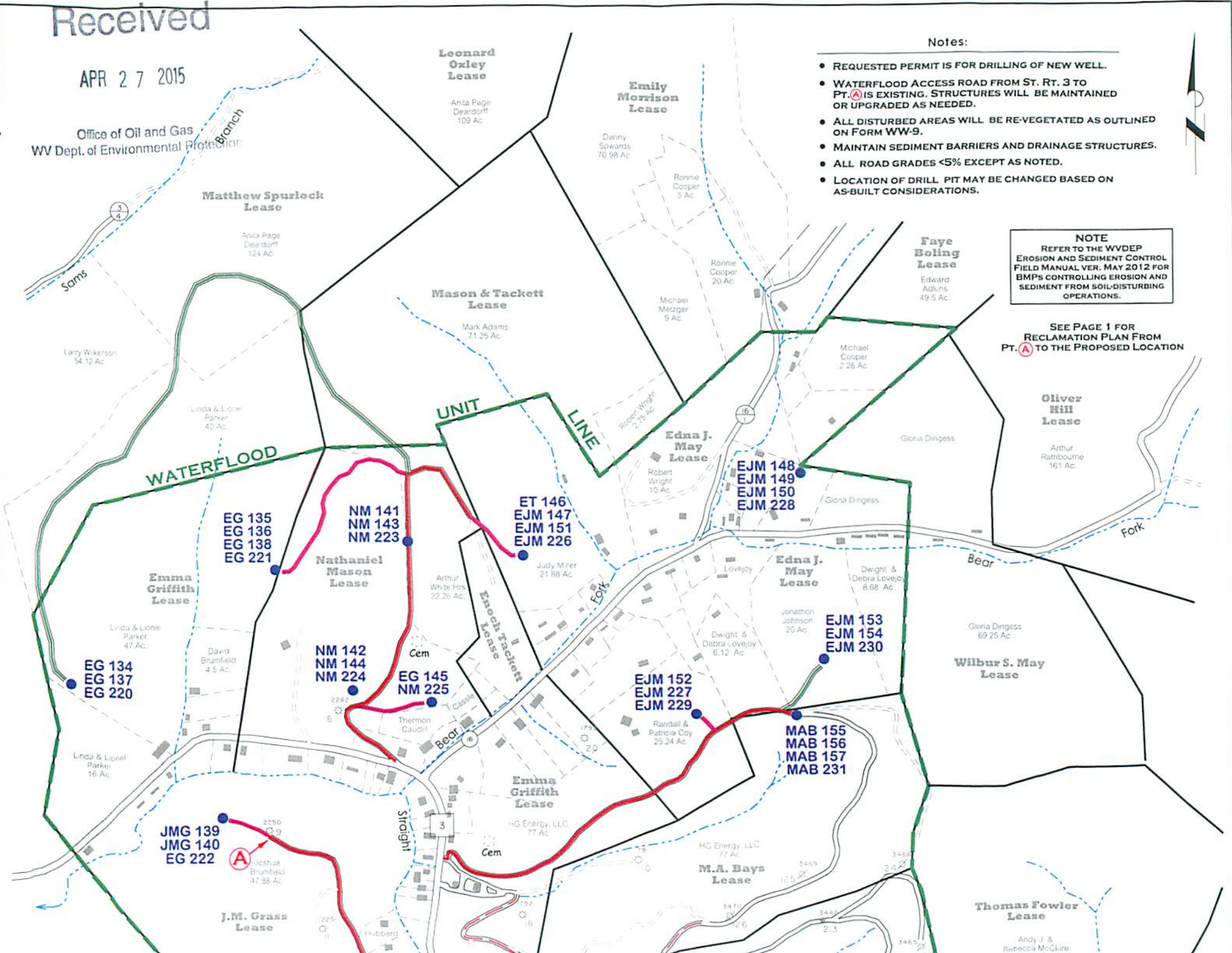
Office of Oil and Gas
WV Dept. of Environmental Protection

Notes:

- REQUESTED PERMIT IS FOR DRILLING OF NEW WELL.
- WATERFLOOD ACCESS ROAD FROM ST. RT. 3 TO PT. (A) IS EXISTING. STRUCTURES WILL BE MAINTAINED OR UPGRADED AS NEEDED.
- 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.

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

SEE PAGE 1 FOR
RECLAMATION PLAN FROM
PT. (A) TO THE PROPOSED LOCATION



WATERFLOOD

UNIT LINE

EG 135
EG 136
EG 138
EG 221

NM 141
NM 143
NM 223

ET 146
EJM 147
EJM 151
EJM 226

EJM 148
EJM 149
EJM 150
EJM 228

EJM 153
EJM 154
EJM 230

EJM 152
EJM 227
EJM 229

MAB 155
MAB 156
MAB 157
MAB 231

JMG 139
JMG 140
EG 222

(A)

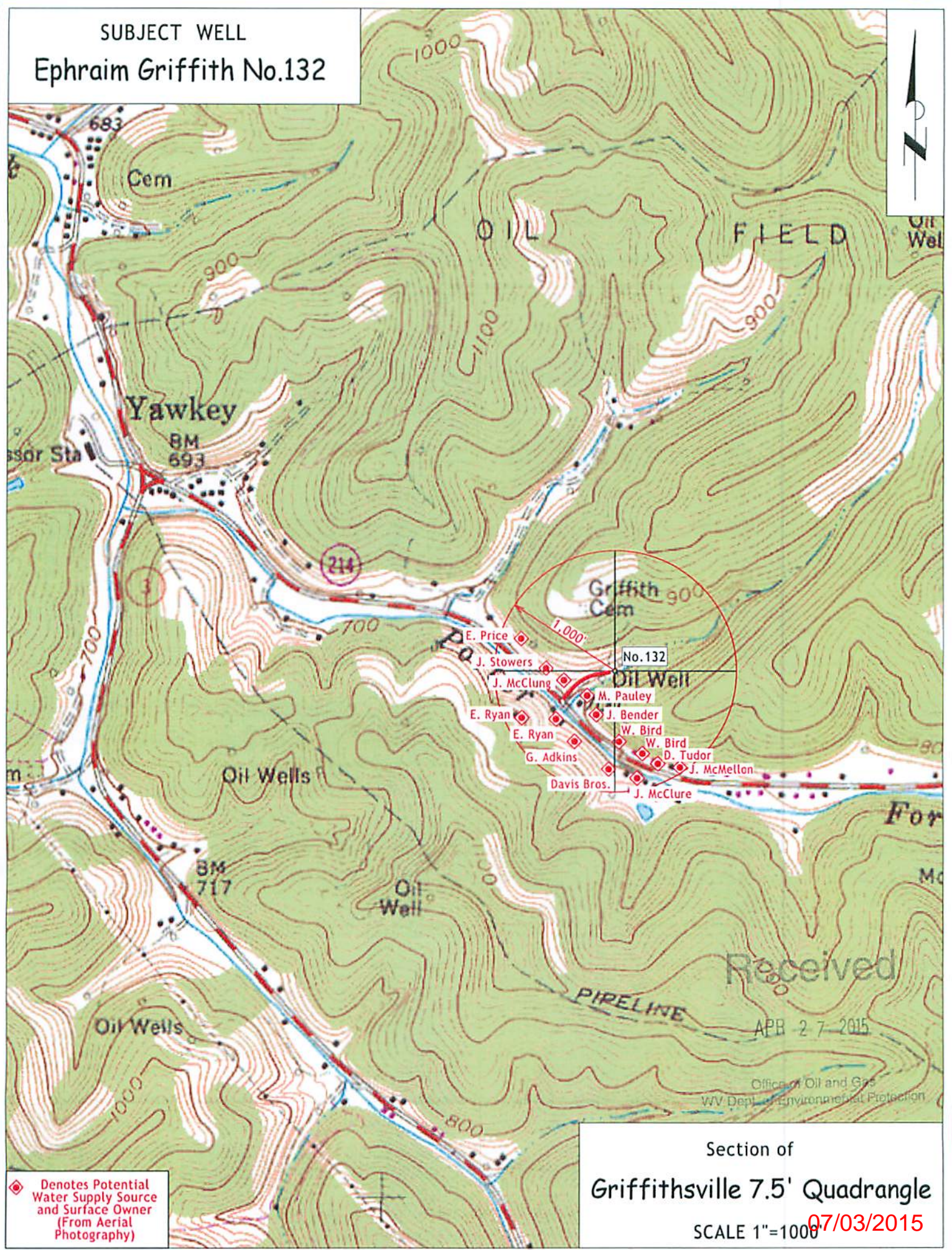
J.M. Grass Lease

M.A. Bays Lease

Thomas Fowler Lease

Andy J. & Rebecca McClure 80 Ac.

SUBJECT WELL
Ephraim Griffith No.132



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

Received
APR 27 2015

Office of Oil and Gas
WV Dept. of Environmental Protection

Section of
Griffithville 7.5' Quadrangle
SCALE 1"=1000' 07/03/2015

2013-5840
0450

(BOT. HL: LON:-81°56'59.0")

LON: -81°57'06.2"

10070'

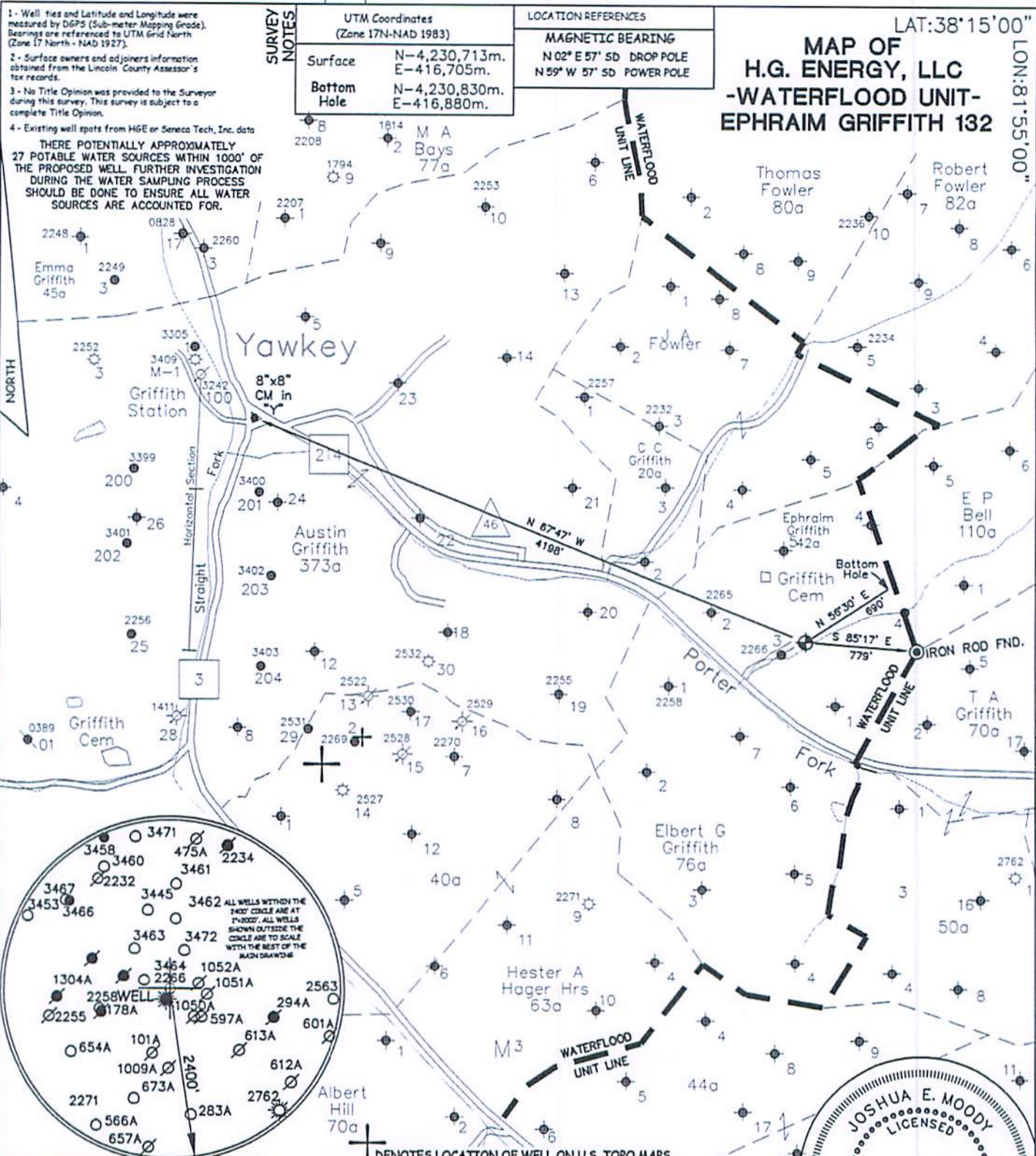
LAT:38°15'00"

LON:81°55'00"

10760'

LAT:38°13'13.6"

(BOTTOM HOLE: LAT:38°13'17.4")



SURVEY NOTES

- 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).
- Surface owners and adjacent information obtained from the Lincoln County Assessor's tax records.
- No Title Opinion was provided to the Surveyor during this survey. This survey is subject to a complete Title Opinion.
- Existing well spots from HGE or Seneca Tech, Inc. data

UTM Coordinates (Zone 17N-NAD 1983)	
Surface	N-4,230,713m. E-416,705m.
Bottom Hole	N-4,230,830m. E-416,880m.

LOCATION REFERENCES	
MAGNETIC BEARING	N 02° E 57' SD DROP POLE
	N 59° W 57' SD POWER POLE

**MAP OF
H.G. ENERGY, LLC
-WATERFLOOD UNIT-
EPHRAIM GRIFFITH 132**

THERE POTENTIALLY APPROXIMATELY 27 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.

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 # 132

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 - 043 - 03483S
DISTRICT DUVAL COUNTY LINCOLN STATE 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 (N 56°30' E 690')
PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION BEREA ESTIMATED DEPTH TVD=2,370' MD=2,942'
WELL OPERATOR H.G. ENERGY, LLC DESIGNATED AGENT D. WHITE
ADDRESS 5260 DuPONT ROAD ADDRESS 5260 DuPONT ROAD
PARKERSBURG, WV 26101 PARKERSBURG, WV 26101

07/03/2015

COUNTY NAME PERMIT

WELL TYPE: OIL
 GAS
 LIQUID INJECTION X
 WASTE DISPOSAL
 HORIZONTAL

(IF "GAS") PRODUCTION
 STORAGE
 DEEP
 SHALLOW

LOCATION: ELEVATION 725'
 WATERSHED PORTER FORK
 DISTRICT DUVAL
 COUNTY LINCOLN
 STATE 47
 COUNTY 43
 PERMIT # 034833

SURFACE OWNER JASON & ASHLEY BENDER
 OIL & GAS ROYALTY OWNER HG ENERGY, LLC ET AL
 LEASE ACREAGE 42 ACRES +/-
 FRACTURE OR REDRILL

PROPOSED WORK: DRILL X CONVERT X
 DRILL DEEPER
 STIMULATE X
 PLUG OFF OLD FORMATION
 OTHER PHYSICAL CHANGE IN WELL (SPECIFY) WELL WILL BE DRILLED DIRECTIONALLY (N 56.30' E 690')

TARGET FORMATION BERA
 CLEAN OUT & REFLUG

WELL OPERATOR H.G. ENERGY, LLC
 5260 DUPONT ROAD
 PARKERSBURG, WV 26101

DESIGNATED AGENT D. WHITE
 5260 DUPONT ROAD
 PARKERSBURG, WV 26101

ESTIMATED DEPTH TVD=2,370' MD=2,942'

COUNTY NAME

PERMIT

JOB # 14-023
 DRAWING # 15HG LC 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

MOODY LAND SURVEYING, LLC
 ST. MARYS, WV 26170

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS

DATE 3/10/15
 OPERATOR'S WELL EPHRAIM GRIFFITH # 132

JOSHUA E. MOODY, P.S. 2020



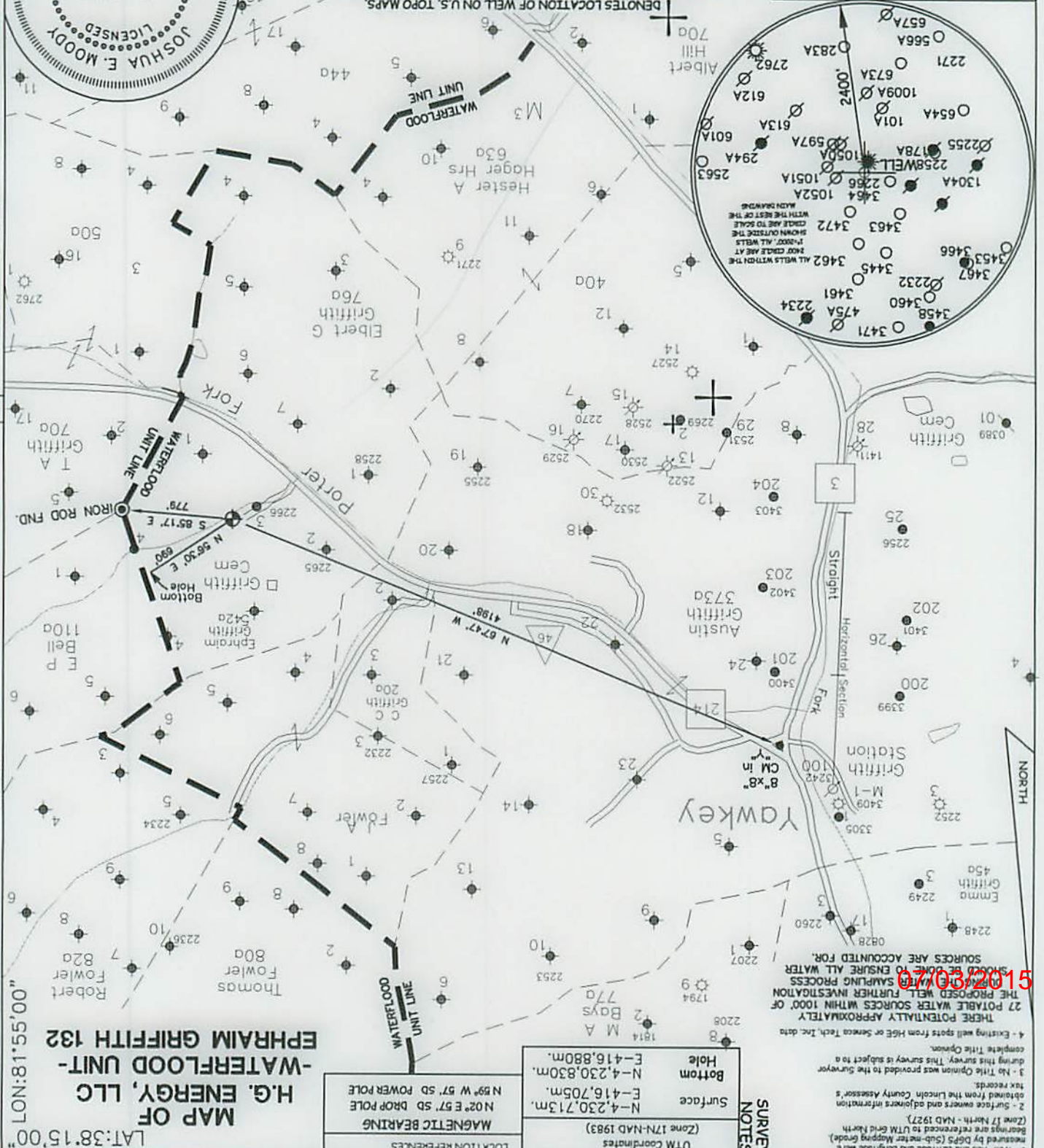
THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO DENOTES LOCATION OF WELL ON U.S. TOPO MAPS.

LAT: 38°13'13.6" (BOTTOM HOLE: LAT: 38°13'17.4")

10760"

LON: 81°55'00"



LAT: 38°15'00"
 LON: 81°55'00"
 MAP OF H.G. ENERGY, LLC
 -WATERFLOOD UNIT-
 EPHRAIM GRIFFITH 132

MAGNETIC BEARING	
Surface	N-4,230.73m. E-416.705m.
Bottom Hole	N-4,230.830m. E-416.880m.

LOCATION REFERENCES
 UTM Coordinates (Zone 17N-NAD 1983)
 N02° E 57' SD DROP POLE
 N59° W 57' SD POWER POLE

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 Hc or Seneca Tech, Inc. data.
- THERE POTENTIALLY APPROXIMATELY 27 POTABLE WATER SOURCES WITHIN 1000' OF THE PROPOSED WELL. FURTHER INVESTIGATION OF POTABLE WATER SOURCES ARE ACCOUNTED FOR.

(BOT. HL: LON: 81°56'59.0") LON: -81°57'06.2" 10070"

PERMIT

COUNTY NAME

ADDRESS PARKERSBURG, WV 26101

ADDRESS 5260 DuPont Road

WELL OPERATOR H.G. ENERGY, LLC

TARGET FORMATION BEREA

PLUG & ABANDON CLEAN OUT & REPLUG

OTHER PHYSICAL CHANGE IN WELL (SPECIFY) WELL WILL BE DRILLED DIRECTIONALLY (N 56.30' E 690')

PROPOSED WORK: DRILL X CONVERT X DRILL DEEPER REDRILL FRACTURE OR

OIL & GAS ROYALTY OWNER HG ENERGY, LLC ET AL

SURFACE OWNER JASON & ASHLEY BENDER

QUADRANGLE GRIFFITHSVILLE 7.5'

DISTRICT DUVAL COUNTY LINCOLN

LOCATION: ELEVATION 725' WATERSHED PORTER FORK

(IF "GAS") PRODUCTION DEEP SHALLOW

WELL TYPE: OIL GAS LIQUID INJECTION X WASTE DISPOSAL X HORIZONTAL

OFFICE OF OIL AND GAS WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

MAPPING GRADE GPS

PROVEN SOURCE OF ELEV. ACCURACY 1/200

MINIMUM DEGREE OF SCALE 1" = 1000'

DRAWING # 15HG LC FOLDER JOB # 14-023

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THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION

REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PERSCRIBED BY

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION,

OFFICE OF OIL AND GAS

MOODY LAND SURVEYING, LLC

DATE 3/10/15

JOSHUA E. MOODY, P.S. 2020

STATE OF WEST VIRGINIA

LICENSED SURVEYOR

NO. 2020

JOSHUA E. MOODY

OPERATOR'S WELL

EPHRAIM GRIFFITH # 132

PERMIT COUNTY

STATE COUNTY

47 - 43

API WELL #

WASTE DISPOSAL X

LIQUID INJECTION X

GAS

WELL TYPE: OIL

PRODUCTION DEEP SHALLOW

(IF "GAS") PRODUCTION DEEP SHALLOW

WELL TYPE: OIL GAS LIQUID INJECTION X WASTE DISPOSAL X HORIZONTAL

OFFICE OF OIL AND GAS WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

MAPPING GRADE GPS

PROVEN SOURCE OF ELEV. ACCURACY 1/200

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EPHRAIM GRIFFITH # 132

PERMIT

COUNTY NAME

ADDRESS PARKERSBURG, WV 26101

ADDRESS 5260 DuPont Road

WELL OPERATOR H.G. ENERGY, LLC

TARGET FORMATION BEREA

PLUG & ABANDON CLEAN OUT & REPLUG

OTHER PHYSICAL CHANGE IN WELL (SPECIFY) WELL WILL BE DRILLED DIRECTIONALLY (N 56.30' E 690')

PROPOSED WORK: DRILL X CONVERT X DRILL DEEPER REDRILL FRACTURE OR

OIL & GAS ROYALTY OWNER HG ENERGY, LLC ET AL

SURFACE OWNER JASON & ASHLEY BENDER

QUADRANGLE GRIFFITHSVILLE 7.5'

DISTRICT DUVAL COUNTY LINCOLN

LOCATION: ELEVATION 725' WATERSHED PORTER FORK

(IF "GAS") PRODUCTION DEEP SHALLOW

WELL TYPE: OIL GAS LIQUID INJECTION X WASTE DISPOSAL X HORIZONTAL

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