



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

October 23, 2015

WELL WORK PERMIT
Secondary Recovery Well

This permit, API Well Number: 47-4303399, 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: A GRIFFITH 200
Farm Name: SAUL, BOBBY

API Well Number: 47-4303399

Permit Type: Secondary Recovery Well

Date Issued: 10/23/2015

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: 07/08/2015
 2) Operator's Well No. Austin Griffith 200
 3) API Well No.: 47 - Lincoln - 03399
 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: 861' Watershed: Straight 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 Ralph Triplett Name To Be Determined Upon Approval of Permit
 Address 5539 McClellan Hwy Address _____
Branchland, WV 25506
 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 2338' Feet (top) to 2358' Feet (bottom)
 13) Estimated Depth of Completed Well, (or actual depth of existing well): 2490' Feet
 14) Approximate water strata depths: Fresh NA Feet Salt 1310 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's 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 <i>RDT 07/14/15</i>
	Size	Grade	Weight per ft.	New	Used	For Drilling	Left In Well		
Conductor									Kinds
Fresh Water	7"	LS	17#	X		418	418		
Coal									Sizes
Intermediate									2.375" x 4.5"
Production	4 1/2"	J-55	10.5#	X		2446.7'	2446.7'		Depths set
Tubing	2 3/8"	J-55	4.6#	X		2200'	2200'		2200'
Liners									Perforations
									Top Bottom

24) APPLICANT'S OPERATING RIGHTS were acquired from Austin Griffith
 by deed _____ / lease x / other contract _____ dated 09/06/1907 of record in the
Lincoln County Clerk's office in le Office of Oil and Gas Book 39 Page 333

JUL 27 2015

**State of West Virginia
Division of Environmental Protection
Section of Oil and Gas**

Well Operator's Report of Well Work

Farm name: SAUL, BOBBY Operator Well No.: A GRIFFITH 200
 LOCATION: Elevation: 861' Quadrangle: GRIFFITHSVILLE 7.5'
 District: DUVAL County: LINCOLN
 Latitude: 9,575 Feet south of 38 Deg 15 Min 0 Sec.
 Longitude: 2,850 Feet west of 81 Deg 57 Min 30 Sec.

COPY

Company: EAST RESOURCES, INC.
 P.O. BOX 5519
 VIENNA, WV 26105-5519

Agent: PHILIP S. ONDRUSEK

Inspector: RALPH TRIPLETT
 Permit Issued: 05/01/08
 Well work Commenced: 09/29/08
 Well work Completed: 10/30/08
 Verbal plugging permission granted on:
 Rotary X Cable _____ Rig _____
 Total Depth (feet) 2490'
 Fresh water depths (ft) NA
 Salt water depths (ft) 1310
 Is coal being mined in area (Y/N) N
 Coal Depths (ft): NA

*RPT
07/14/15*

Casing/ tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
7"	418'	418'	110 sks
4 1/2"	2446.7'	2446.7'	150 sks

OPEN FLOW DATA * WATERFLOOD PRODUCER

Producing formation Berea Pay zone depth (ft) 2338'-2358'
 Gas: Initial open flow * MCF/d Oil: Initial open flow * Bbl/d
 Final open flow * MCF/d Final open flow * Bbl/d
 Time of open flow between initial and final tests Hours
 Static rock pressure psig (surface pressure) after Hours

Second producing formation Pay zone depth (ft)
 Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d
 Final open flow MCF/d Final open flow Bbl/d
 Time of open flow between initial and final tests Hours
 Static rock pressure psig (surface pressure) after Hours

RECEIVED

NOTE: ON BACK OF THIS FORM, PUT THE FOLLOWING: 1) DETAILS OF PERFORATED INTERVALS, FRAC PLUGGING OR STIMULATING, PHYSICAL CHANGE, ETC. 2) THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: EAST RESOURCES, INC. *[Signature]*
 By: *[Signature]*
 Date: 11/14/08

Office of Oil and Gas
 JUL 27 2015

10/23/2015

CK# 3088
550.00
43033995

FORM WW-3 (A)
1/12



1) Date: 07/08/2015
2) Operator's Well No. Austin Griffith 200
3) API Well No.: 47 - 043 - 03399
State County Permit
4) UIC Permit No. UIC2R04301AP

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,

5) Surface Owner(S) To Be Served
(a) Name Crever Saul Estate - Bobby Saul
Address P.O. Box 152
Sod, WV 25564
(b) Name _____
Address _____
(c) Name _____
Address _____
6) Inspector Ralph Triplett
Address 5539 McClellan Hwy
Branchland, WV 25506
Telephone 304-389-0350
7) (a) Coal Operator
Name NA
Address _____
7) (b) Coal Owner(S) With Declaration Of Record
Name NA
Address _____
7) (c) Coal Lessee with Declaration Of Record
Name NA
Address _____

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


JUL 27 2015

WV Department of
Environmental Protection

10/23/2015

7014 3490 0001 9122 0470

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only	
For delivery information, visit our website at www.usps.com ®.	
OFFICIAL USE	
Postage	\$ 1.42
Certified Fee	3.45
Return Receipt Fee (Endorsement Required)	2.70
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 7.67



AG 200-C

<i>Sent To</i>	Crever Saul Estate - Bobby Saul
<i>Street & Apt. No., or PO Box No.</i>	P.O. Box 152
<i>City, State, ZIP+4</i>	Sod WV 25564

PS Form 3800, July 2014 See Reverse for Instructions

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Office of Oil and Gas

JUL 27 2015

WV Department of
Environmental Protection

43033995

WW-9
Rev. 5/10

Page 333 of _____
API Number 47 - _____ - _____
Operator's Well No. Austin Griffith 200

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 Straight Fork Quadrangle Griffithville 7.5'

Elevation 861' County Lincoln District Duval

Description of anticipated Pit Waste: No pit wil be used - conversion from producing well to injection well, no pit waste

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? _____ If so, what 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 No pit waste or fluids anticipated - this is a well conversion)

ANY WELL EFFLUENT MUST BE CONTAINED IN TANKS & DISPOSED OF PROPERLY. JMM.

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

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

Additives to be used? NA

Will closed loop system be used? No

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. NA

-If left in pit and plan to solidify what medium will be used? Cement, lime, sawdust NA

-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.

RECEIVED
Office of Oil and Gas

Company Official Signature Diane White

JUL 27 2015

Company Official (Typed Name) Diane White

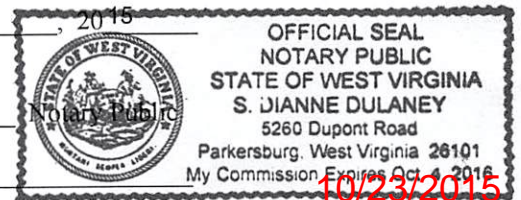
Company Official Title Agent

WV Department of
Environmental Protection

Subscribed and sworn before me this 8th day of July

S. Dianna Dulaney

My commission expires Oct 4, 2016



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 1.0 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

MUST ~~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: Raeppel D. Triplett

Comments: _____

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Office of Oil and Gas

JUL 27 2015

Title: District Inspector

Date: July 14, 2015

Field Reviewed? (Lincoln) Yes

No

WV Department of
Environmental Protection

Reclamation Plan For:

Austin Griffith No. 200

47-043-3399



NOTE: *ROT 07/14/15*
 This is an existing well to be converted to water injection. No additional clearing or location construction will be required for requested well work activities.

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 conversion of existing well.
- Access road from WV S.R. 3 to location is existing. Structures will be upgraded and maintained.
- 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.
- No workover pit will be constructed.

RECEIVED
 Office of Oil and Gas

JUL 27 2015

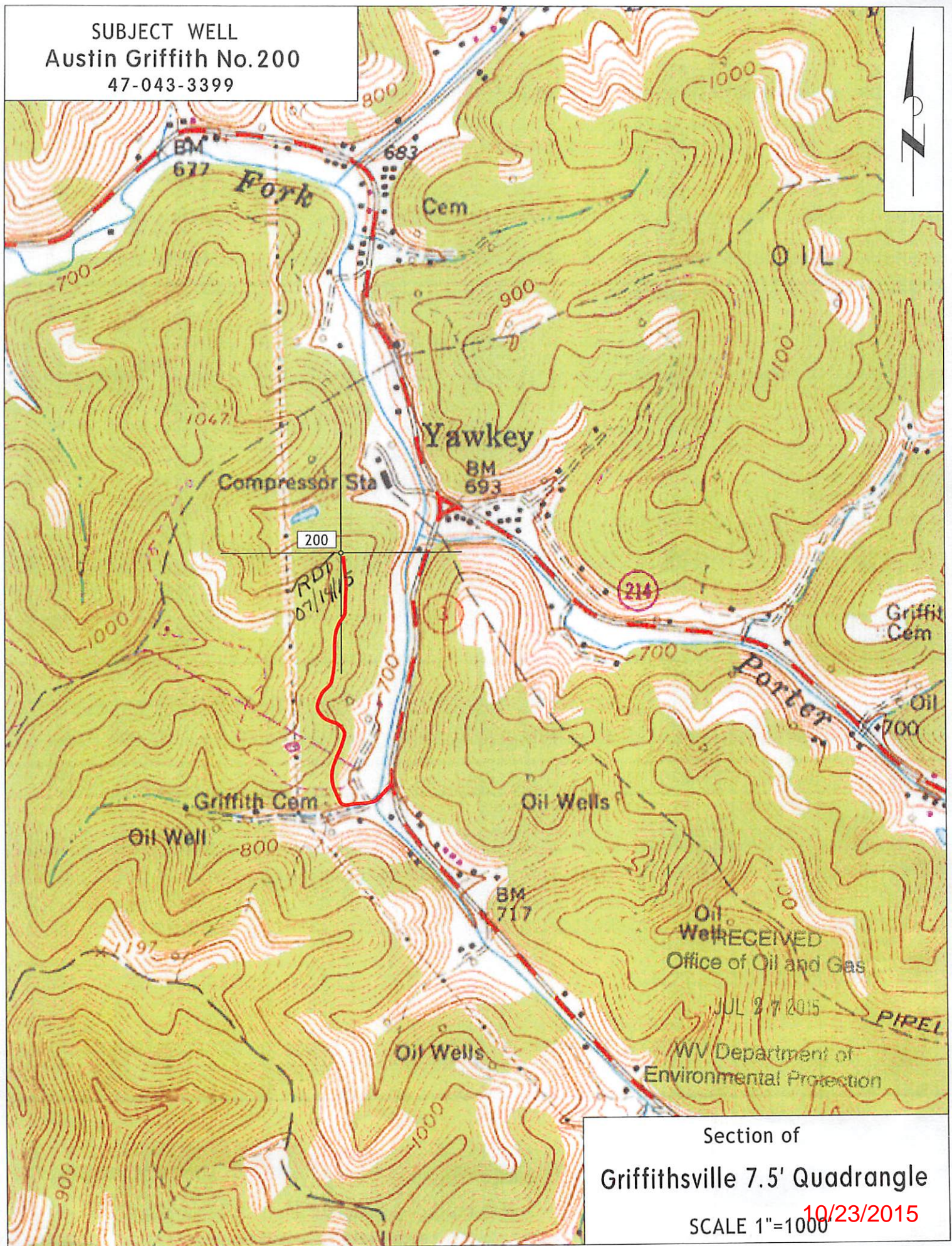
WV Department of
 Environmental Protection

10/23/2015

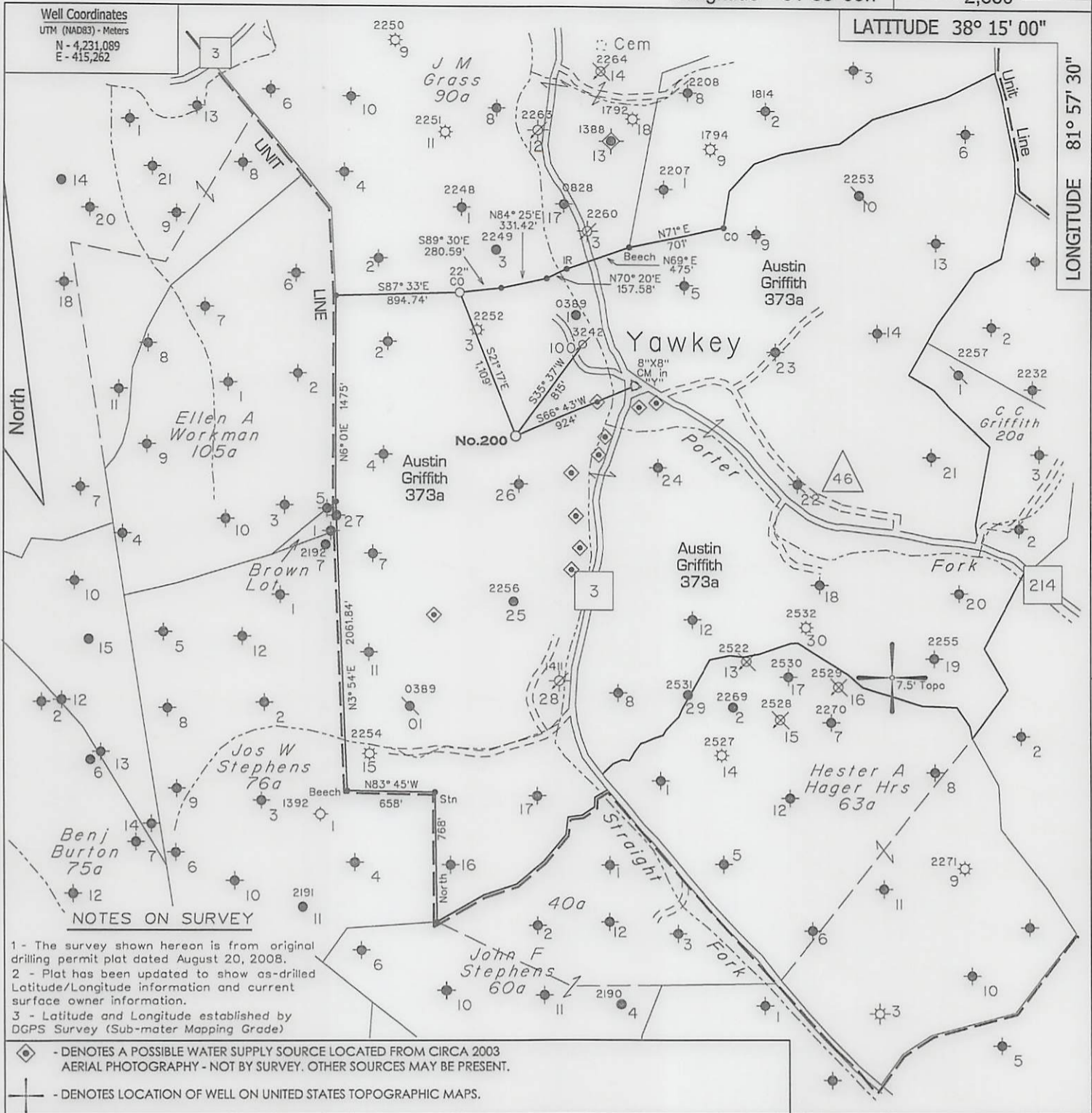
Note: Drawing not to Scale

- Existing Culvert

SUBJECT WELL
Austin Griffith No.200
47-043-3399



Section of
Griffithsville 7.5' Quadrangle
SCALE 1"=1000
10/23/2015



Well Coordinates
 UTM (NAD83) - Meters
 N - 4,231,089
 E - 415,262

North

NOTES ON SURVEY

- 1 - The survey shown hereon is from original drilling permit plat dated August 20, 2008.
- 2 - Plat has been updated to show as-drilled Latitude/Longitude information and current surface owner information.
- 3 - Latitude and Longitude established by DGPS Survey (Sub-meter Mapping Grade)

- ◆ - DENOTES A POSSIBLE WATER SUPPLY SOURCE LOCATED FROM CIRCA 2003 AERIAL PHOTOGRAPHY - NOT BY SURVEY. OTHER SOURCES MAY BE PRESENT.
- ⊕ - DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

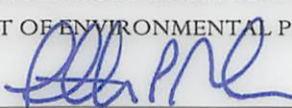
FILE NO. 273

SCALE 1" = 1000'

MINIMUM DEGREE OF ACCURACY Sub-Meter

PROVEN SOURCE OF ELEVATION DGPS Survey
(Sub-Meter Mapping Grade)

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 PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

(SIGNED) 
 TIMOTHY P. ROUSH PS 793



WEST VIRGINIA
 Division of Environmental Protection
 Office of Oil and Gas
 601 57th Street
 Charleston, West Virginia 25301

WELL TYPE: OIL ___ GAS ___ LIQUID INJECTION WASTE DISPOSAL ___
 (IF "GAS") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW ___

LOCATION: ELEVATION 861' WATERSHED Straight Fork
 DISTRICT Duval COUNTY Lincoln
 QUADRANGLE Griffithville 7.5'

SURFACE OWNER Crever Saul Estate ACREAGE 65.40 Ac.
 OIL & GAS ROYALTY OWNER HG Energy, LLC., et al LEASE ACREAGE 375 Ac. LEASE NO. 56489-50

PROPOSED WORK: DRILL ___ CONVERT DRILL DEEPER ___ REDRILL ___ FRACTURE OR
 STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW
 FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Convert producing well to liquid injection


PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
 TARGET FORMATION Berea ESTIMATED DEPTH 2,490'

WELL OPERATOR HG Energy LLC. DESIGNATED AGENT Diane White
 ADDRESS 5260 DuPont Road ADDRESS 5260 DuPont Road
Parkersburg, WV 26101 Parkersburg, WV 26101

DATE July 6, 2015

FARM Austin Griffith No.200

API WELL NO. 47 - 043 - 033995

WEST VIRGINIA


10/23/2015

I
now

Operator: HG ENERGY, LLC API: 4303399S

WELL No: A GRIFFITH 200

Reviewed by: gmm Date: 10/23/15

15 Day End of Comment: 08/11/15

CHECKLIST FOR FILING A PERMIT

Secondary Recovery Well

CK# 3088

- WW-~~2~~³B
- Inspector signature on WW-2B
- WW-~~2~~³A (Notarized)
- Certified Mail Receipts, Waivers, or Affidavits of Personal Service
- Surface Owner Waiver
- Coal Owner / Lessee / Operator Waiver
- WW-~~2B~~^{3B} (Signed) Showing Book/Page Number and Royalty Percentage
- ~~None~~ WW-2B-1 (Names, addresses, and spot on topographical map listed as water testing) → ~~not included~~ ^{not included} _{gmm}
- WW-9 (Page 1 & 2) (Notarized)
- 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

10/23/2015