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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Tuesday, December 3, 2019  
WELL WORK PERMIT  
Vertical / Re-Work

HG ENERGY, LLC  
5260 DUPONT ROAD  
PARKERSBURG, WV 26101

Re: Permit approval for AUSTIN GRIFFITH NO. 104  
47-043-03452-00-00

This well work permit 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 any additional specific 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 of 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.

Per 35 CSR 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- 0450.

  
James A. Martin  
Chief

Operator's Well Number: AUSTIN GRIFFITH 104  
Farm Name: MCCLURE, ANDY J. & REBECCA  
U.S. WELL NUMBER: 47-043-03452-00-00  
Vertical Re-Work  
Date Issued: 12/3/2019

## 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.

FORM WW-3 (B)  
1/12

RECEIVED

Office of Oil and Gas



1) Date: 10/03/2019  
 2) Operator's Well No. Austin Griffith 104  
 3) API Well No.: 47 - 043 - 03452  
 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: 1026' 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 Jeffery Smith Name To Be Determined Upon Approval of Permit  
 Address 5369 Big Tyler Road Address  
 Cross Lanes, WV 25313

11) PROPOSED WELL WORK Drill  / Drill deeper  / Redrill  / Stimulate   
 Plug off old formation  / Perforate new formation  / Convert   
 Other physical change in well (specify) WITH SMALL HYDRAULIC FRACTURE  
 12) GEOLOGIC TARGET FORMATION Berea Depth 2504' Feet (top) to 2526' Feet (bottom)  
 13) Estimated Depth of Completed Well, (or actual depth of existing well): 2670' Feet  
 14) Approximate water strata depths: Fresh NA Feet Salt 1190', 1540' Feet  
 15) Approximate coal seam depths: 588' - 594'  
 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 psig (BHFP)  
 19) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour 25 bbl Bottom hole pressure 2400 psig  
 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	11 5/8"	LS	NA		x	30'	30'	Sand In	Kinds
Fresh Water	7"	LS	17#	x		719'	719'	CTS	
Coal									Sizes
Intermediate									2.375" x 4.5"
Production	4 1/2"	J-55	10.5#	x		2612.2'	2612.2'	CTS	Depths set
Tubing	2 3/8"	J-55	4.7#	x		2300'	2300'		2200'
Liners									Perforations 78 Top 2490 Bottom 2503

24) APPLICANT'S OPERATING RIGHTS were acquired from Austin and Elizabeth Griffith  
 by deed / lease x / other contract / dated 12/19/1906 of record in the  
 Lincoln County Clerk's office in Lease Book 39 Page 333

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WV Department of  
Environmental Protection Page 1 of 4

WR-35  
Rev. 8/23/13

State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Well Operator's Report of Well Work

API 47 - 043 - 03452 County LINCOLN District DUVAL  
Quad GRIFFITHSVILLE 7.5' Pad Name AUSTIN GRIFFITH Field/Pool Name GRIFFITHSVILLE  
Farm name MCCLURE, ANDY J. & REBECCA Well Number 104  
Operator (as registered with the OOG) H.G. ENERGY LLC  
Address 5260 DuPONT ROAD City PARKERSBURG State WV Zip 26101

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4,231,210 M Easting 416,126 M  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing \_\_\_\_\_ Easting \_\_\_\_\_

Elevation (ft) 1,026' GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine  
Mud Type(s) and Additive(s)  
N/A

Date permit issued 5/31/2013 Date drilling commenced 7/15/14 Date drilling ceased 7/18/14  
Date completion activities began 7/28/14 Date completion activities ceased 7/29/14  
Verbal plugging (Y/N) N Date permission granted \_\_\_\_\_ Granted by \_\_\_\_\_

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft N/A Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1190', 1540' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 588'-594' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by:  
JK 6/24/15

PP

WR-35  
Rev. 8/23/13

API 47-043-03452 Farm name MCCLURE, ANDY J. & REBECCA Well number 104

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	12 1/4"	11 5/8"	30'	Used	LS		Sand In
Surface	8 3/4"	7"	719'	New	LS	84'	Y
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2612.2'	New	J-55		N
Tubing							
Packer type and depth set							

Comment Details Circulated Est. 50 sks to surface on 7" surface cement job.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Reg Neat	175	15.6	1.18	207	Surface	8
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	50:50 Pozmix	150	14.2	1.27	191	818'	8
Tubing							

Drillers TD (ft) 2670' Loggers TD (ft) 2677'  
 Deepest formation penetrated Berea Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) N/A

Check all wireline logs run  caliper  density  deviated/directional  induction  
 neutron  resistivity  gamma ray  temperature  sonic

Well cored  Yes  No Conventional Sidewall Were cuttings collected  Yes  No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING \_\_\_\_\_

8 Centralizers every 84' from bottom on 4 1/2", Centralizer placed mid string on 7"

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

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WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_

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Environmental Protection



WR-35  
Rev. 8/23/13

API 47- 043 - 03452 Farm name MCCLURE, ANDY J. & REBECCA Well number 104

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>
Berea	2490'-2503' TVD MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface \_\_\_\_\_ psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas \_\_\_\_\_ mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
Sand/Shale	0	588	0		
Pittsburgh Coal	588	594			
Sand/Shale	594	1764			
Big Lime	1764	1972			
Big Injun	1972	2073			
Shale	2073	2467			
Coffee Shale	2467	2488			
Berea	2488	2504			
Shale	2504	2670			
TD	2670				

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Please insert additional pages as applicable.

Drilling Contractor Decker Drilling  
Address 11565 State Route 676 City Vincent State OH Zip 45784

Logging Company Weatherford International  
Address 777 North River Avenue City Weston State WV Zip 26452

Cementing Company Universal Services  
Address 5252 Rt 1428 City Allen State KY Zip 41601

Stimulating Company Producers Service Corp.  
Address 109 South Graham Street City Zanesville State OH Zip 43701

Please insert additional pages as applicable.

Completed by Roger Heldman Telephone 304-420-1107  
Signature *Roger Heldman* Title Operations Manager Date 10/15/14

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry





FORM WW-3 (A)  
1/12



1) Date: October 3, 2019  
2) Operator's Well No. Austin Griffith 104  
3) API Well No.: 47 - 043 - 03452  
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	7) (a) Coal Operator
(a) Name <u>Andy and Rebecca McClure</u>	Name <u>NA</u>
Address <u>109 Coon Whistle Hollow</u>	Address _____
<u>Yawkey, WV 25573</u>	_____
(b) Name _____	7) (b) Coal Owner(S) With Declaration Of Record
Address _____	Name <u>NA</u>
_____	Address _____
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Jeffery Smith</u>	7) (c) Coal Lessee with Declaration Of Record
Address <u>5369 Big Tyler Road</u>	Name <u>NA</u>
<u>Cross Lanes, WV 25313</u>	Address _____
Telephone <u>681-313-6743</u>	_____

**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 19 .

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



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

47-043-03452 W

October 3, 2019

Andy & Rebecca McClure  
109 Coon Whistle Hollow  
Yawkey, WV 25573

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Office of Oil and Gas

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RE: Austin Griffith No. 104 (47-043-03452)  
Duval District, Lincoln County  
West Virginia

WV Department of  
Environmental Protection

Dear Landowner:

Enclosed are copies of various application papers that we have filed with the West Virginia Department of Environmental Protection (WVDEP), Office of Oil and Gas. A well work permit is being requested for the above-referenced well.

Pursuant to WV Code Chapter 22B, Article 6, you are receiving copies of this correspondence because the well or other anticipated disturbance is located on your surface property. Your rights as a landowner are detailed in the enclosed permit application papers.

No action on your part is required. If you have any questions or comments regarding this application, you may call this office at (304) 420-1119.

Very truly yours,

*Diane White*

Diane C. White

Enclosures

47-043-03452W

WW-9  
(2/15)

API Number 47 - 043 - 03452

Operator's Well No. Austin Griffith 104

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name HG Energy LLC OP Code 494497948

Watershed (HUC 10) Porter Fork Quadrangle Griffithville 7.5'

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No

Will a pit be used? Yes  No

If so, please describe anticipated pit waste: NA

Will a synthetic liner be used in the pit? Yes  No  If so, what ml.? \_\_\_\_\_

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 wastes anticipated, should there be any cuttings or fluids they will be hauled for disposal)

Will closed loop system be used? If so, describe: No

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. NA

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

Additives to be used in drilling medium? NA

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. None anticipated; If any, remove off site to an approved landfill

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

-Landfill or offsite name/permit number? NA

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

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

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NOV 12 2019

Subscribed and sworn before me this 3rd day of October, 2019

[Signature] Notary Public

My commission expires 11/2/2021



47-043-03452W

Form WW-9

Operator's Well No. Austin Griffith 104

HG Energy LLC

Proposed Revegetation Treatment: Acres Disturbed 0.1 acres Prevegetation pH \_\_\_\_\_

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch Straw 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5

\*\*Sediment Control Plan will be in effect at all times \*\*

Attach:

Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Jeffrey Smith

Comments: \_\_\_\_\_

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Office of Oil and Gas

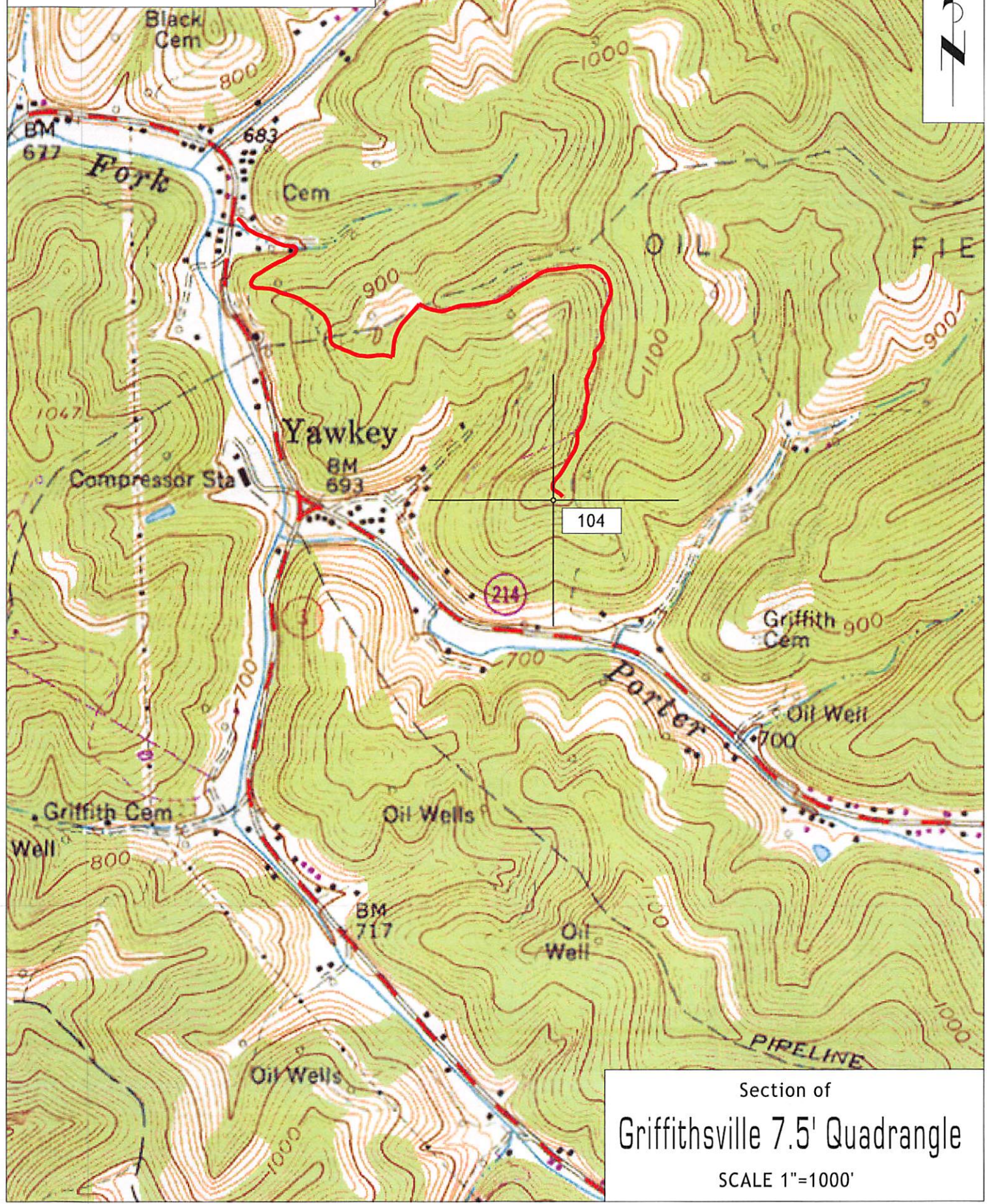
NOV 12 2019

WV Department of  
Environmental Protection

Title: Oil & Gas Inspector Date: 10-11-19

Field Reviewed?  Yes  No

SUBJECT WELL  
Austin Griffith No. 104  
47-043-03452



Section of  
Griffithsville 7.5' Quadrangle  
SCALE 1"=1000'

# Reclamation Plan For:

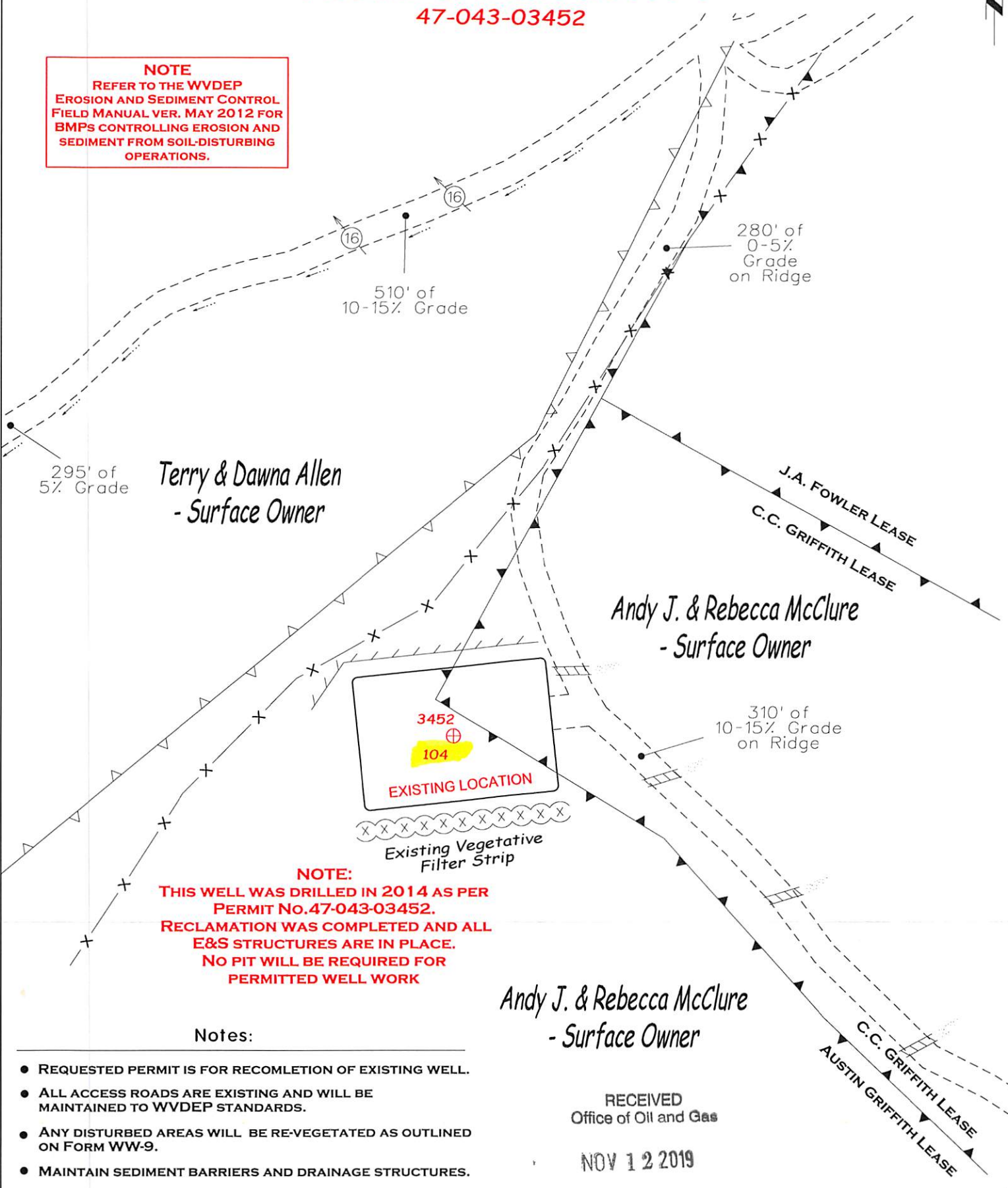
47-043-03452W

## Austin Griffith No. 104

47-043-03452



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



**NOTE:**  
 THIS WELL WAS DRILLED IN 2014 AS PER  
 PERMIT No.47-043-03452.  
 RECLAMATION WAS COMPLETED AND ALL  
 E&S STRUCTURES ARE IN PLACE.  
 NO PIT WILL BE REQUIRED FOR  
 PERMITTED WELL WORK

Notes:

- REQUESTED PERMIT IS FOR RECOMLETION OF EXISTING WELL.
- ALL ACCESS ROADS ARE EXISTING AND WILL BE MAINTAINED TO WVDEP STANDARDS.
- ANY DISTURBED AREAS WILL BE RE-VEGETATED AS OUTLINED ON FORM WW-9.
- MAINTAIN SEDIMENT BARRIERS AND DRAINAGE STRUCTURES.
- DRAWING NOT TO SCALE.

Andy J. & Rebecca McClure  
- Surface Owner

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Office of Oil and Gas

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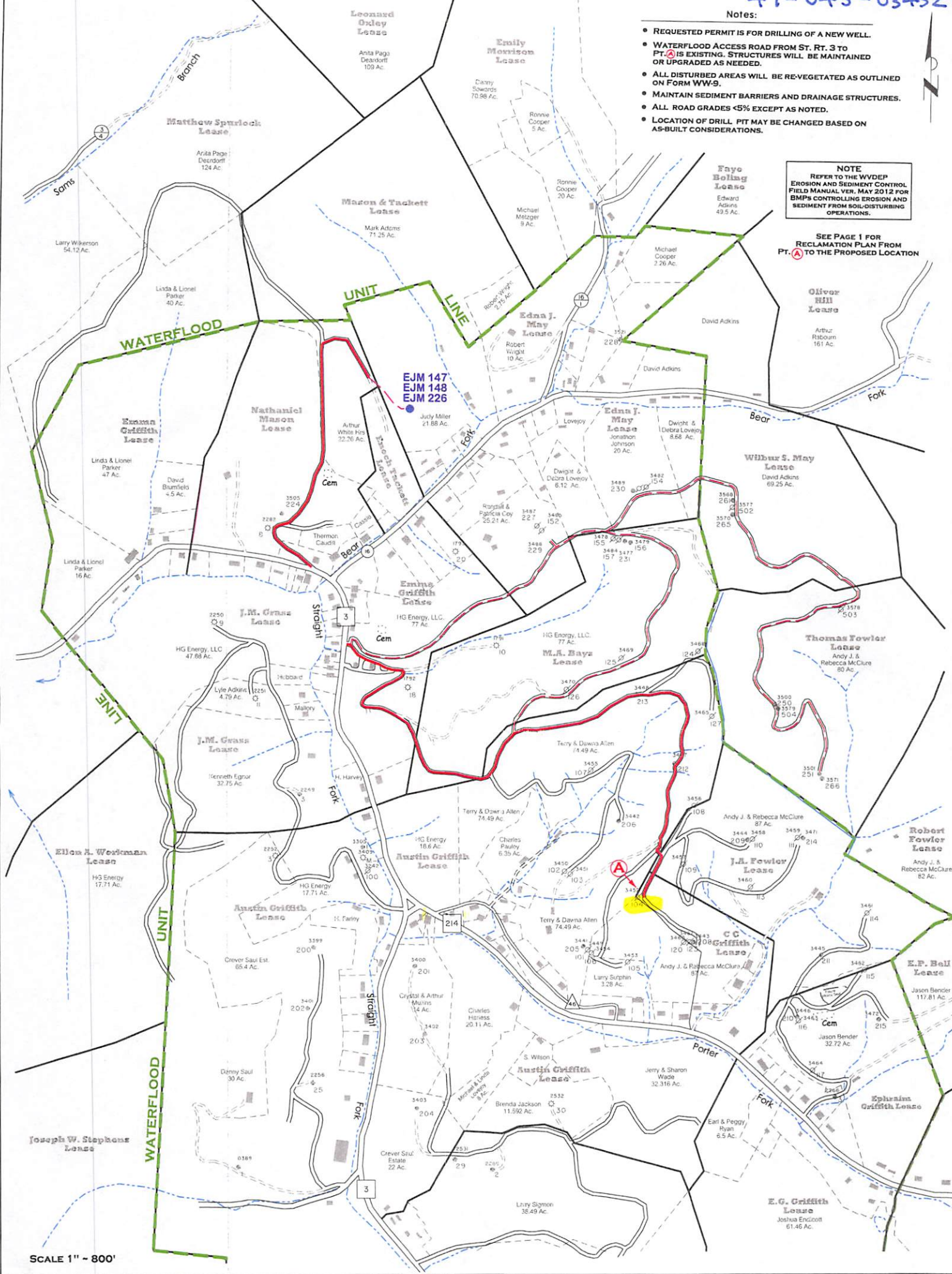
Note: Drawing not to Scale

Notes:

- REQUESTED PERMIT IS FOR DRILLING OF A 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



SCALE 1" = 800'



**GRIFFTHSVILLE WATERFLOOD**

Lincoln County, W.Va.

**RECLAMATION PLAN  
SHOWING ROAD SYSTEMS  
TO BE USED FOR 2019  
DRILLING PROGRAM**

SEPTEMBER 3, 2019

PAGE 2

**NOTES**

1. REFER TO THE WVDEP EROSION AND SEDIMENTATION CONTROL MANUAL (VER. MAY 20, 2013) FOR BMP'S CONTROLLING EROSION AND SEDIMENTATION FROM ALL SOIL-DISTURBING OPERATIONS.
2. SEE PAGE ONE OF RECLAMATION PLAN FOR DETAILS OF NEW ROAD CONSTRUCTION AND ROAD UPGRADES FROM POINT A TO DRILL SITE LOCATION.
3. EXISTING WATERFLOOD ACCESS ROADS WILL BE MAINTAINED IN PRESENT CONDITION. THESE ROADS WERE CONSTRUCTED UNDER CONDITIONS SET FORTH IN VARIOUS DRILLING PERMITS ISSUED BY WVDEP-OOG PRIOR TO 2015 (AS SHOWN). SEE PERMITS ON FILE FOR MORE DETAIL.

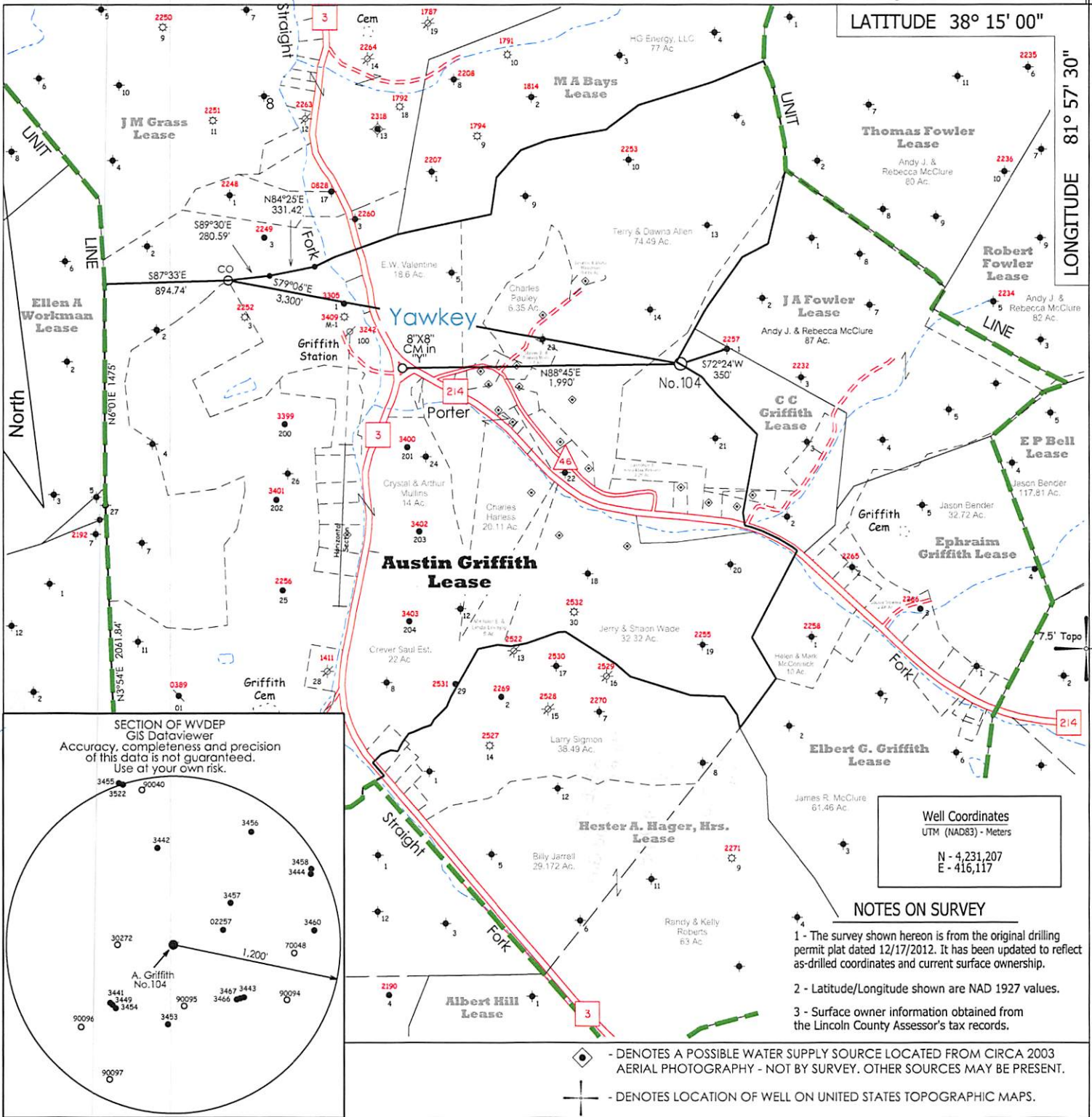
**LEGEND**

- EXISTING WATERFLOOD ROADS TO BE USED.
- OTHER EXISTING MAIN WATERFLOOD ROADS (POSSIBLE ACCESS).
- EXISTING LEASE OR FARM ROADS TO BE UPGRADED.
- NEW ROADS TO BE CONSTRUCTED.
- WSM 265
- LOCATION FOR PROPOSED WELLS
- POTENTIAL WATER SUPPLY SOURCE TO BE SAMPLED (LOC. APPROX.)

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NOV 12, 2019

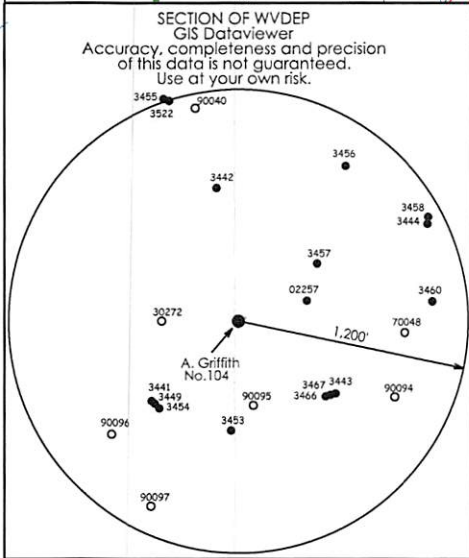
WV Department of



LONGITUDE 81° 57' 30"

9,166'

Latitude = 38° 13' 29.4"



Well Coordinates  
 UTM (NAD83) - Meters  
 N - 4,231,207  
 E - 416,117

NOTES ON SURVEY

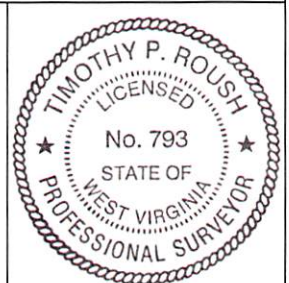
- 1 - The survey shown hereon is from the original drilling permit plat dated 12/17/2012. It has been updated to reflect as-drilled coordinates and current surface ownership.
- 2 - Latitude/Longitude shown are NAD 1927 values.
- 3 - Surface owner information obtained from the Lincoln County Assessor's tax records.

- ◊ - 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. \_\_\_\_\_  
 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*  
 TIMOTHY P. ROUSH PS 793



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

DATE September 3, 2019  
 FARM Austin Griffith No.104  
 API WELL NO. 47 - 043 - 03452W

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

LOCATION: ELEVATION 1,026' WATERSHED Porter Fork  
 DISTRICT Duval COUNTY Lincoln  
 QUADRANGLE Griffithville 7.5'

SURFACE OWNER Andy J. & Becky McClure ACREAGE 87 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) \_\_\_\_\_

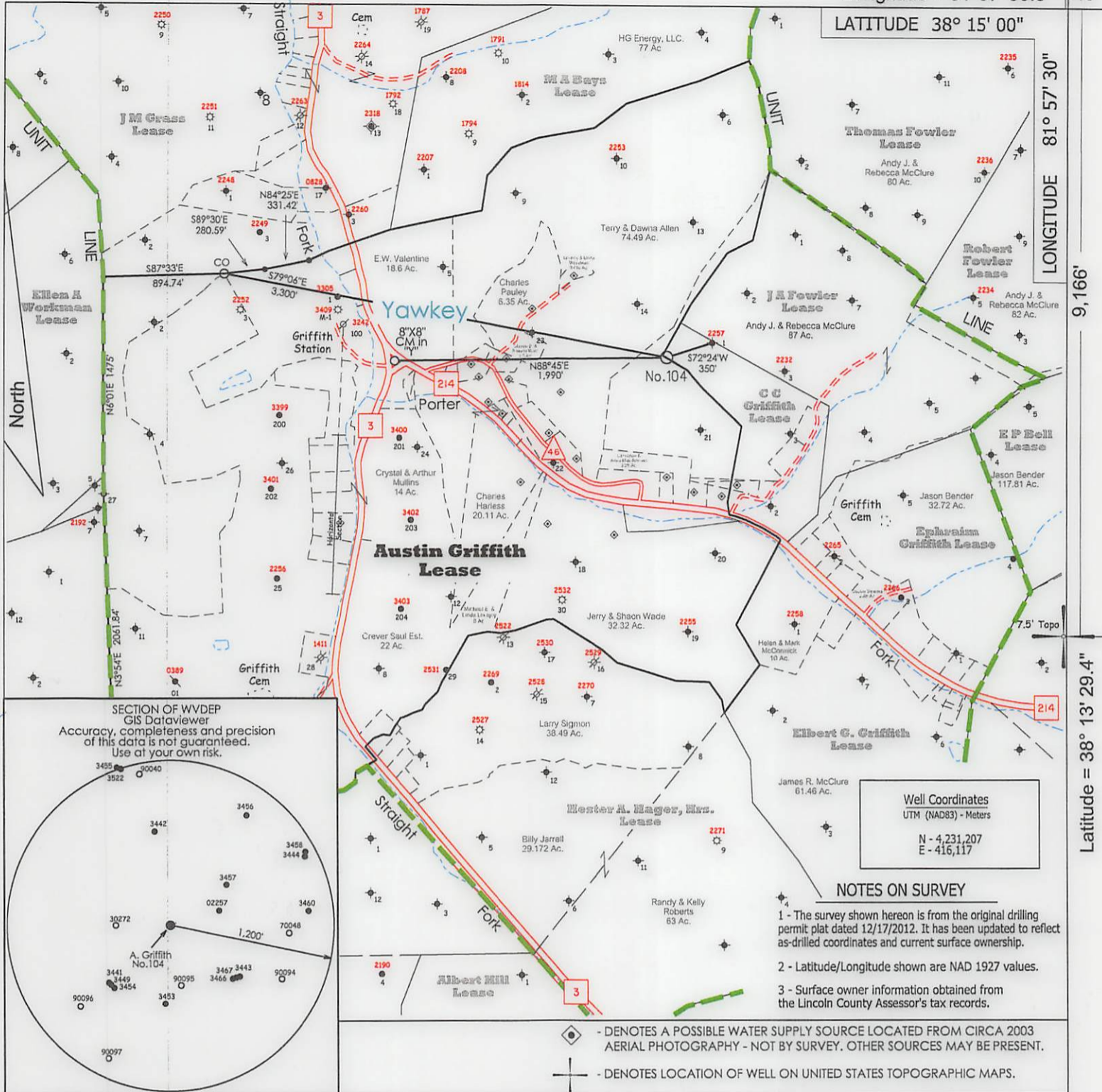
PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
 TARGET FORMATION Berea ESTIMATED DEPTH 2,670'

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

FORM IV-6





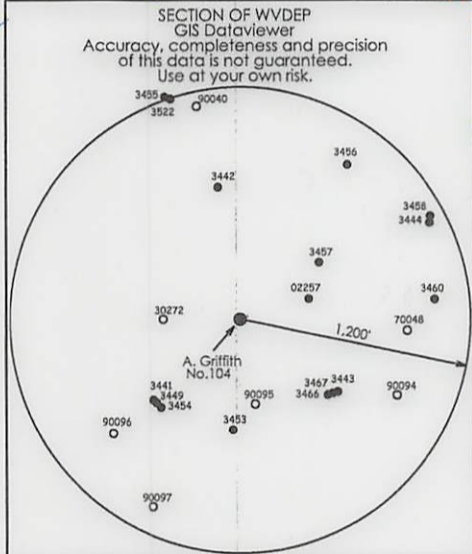


**Well Coordinates**  
 UTM (NAD83) - Meters  
 N - 4,231,207  
 E - 416,117

**NOTES ON SURVEY**

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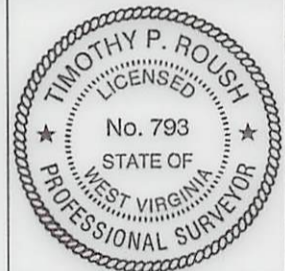
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