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 13, 2013

WELL WORK PERMIT

Secondary Recovery Well

This permit, API Well Number: 47-4303468, 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: M.A. BAYS NO. 124
Farm Name: ALLEN, TERRY & DAWNA
API Well Number: 47-4303468
Permit Type: Secondary Recovery Well
Date Issued: 06/13/2013

Promoting a healthy environment.

PERMIT CONDITIONS

West Virginia Code § 22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

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 within 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 20 mil thickness synthetic liner.

5. No land application of pit fluids.

43 034685

WW-3A
10/07

1) Date: April 24, 2013
2) Operator's Well No. M. A. Bays No. 124
3) API Well No. 47 043 -
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) Surface Owner(s) To Be Served
(a) Name Terry & Dawna Allen ✓
Address 28 Russell Road
Yawkey, WV 25573
(b) Name Andy & Rebecca McClure ✓
Address 109 Coon Whistle Hollow
Yawkey, WV 25573
(c) Name HG Energy, LLC
Address 5260 Dupont Road
Parkersburg, WV 26101

6) Inspector Ralph Triplett
Address 5539 McClellan Hwy
Branchland, WV 25506
Telephone 389-0350

7 (a) Coal Operator
Name NA
Address

7 (b) Coal Owner(s) With Declaration Of Record
Name NA
Address

Name
Address

7(c) Coal Lessee With Declaration Of Record
NA

TO THE PERSON(S) 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 To be determined

THE REASON YOU RECEIVED THESE DOCUMENTS IS THAT YOU HAVE RIGHTS REGARDING THE APPLICATION WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" ON FORM WW-3(A) DESIGNATED TO YOU. HOWEVER YOU ARE NOT REQUIRED TO TAKE ANY 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 C. White
Its: Accountant

Signature Diane C. White

Received
MAY 10 2013

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at: depprivacyofficer@wv.gov

Office of Oil and Gas
WV Dept. of Environmental Protection

4303468S

WW-3B
10/07

1) Date: April 24, 2013
2) Operator's Well No.: M. A. Bays No. 124
3) API Well No.: 47 - 043 - (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 X Gas Injection (not storage) ____ Waste Disposal ____

6) LOCATION: Elevation 1140' Watershed Porter Fork
District Duval County Lincoln Quadrangle Griffithsville 7.5'

7) WELL OPERATOR: HG Energy, LLC 494497948
5260 Dupont Road
Parkersburg, WV 26101

8) DESIGNATED AGENT: Mike Kirsch
5260 Dupont Road
Parkersburg, WV 26101

9) OIL & GAS INSPECTOR TO BE NOTIFIED:
Name Ralph Triplett
Address 5539 McClellan Hwy
Branchland, WV 25506

10) DRILLING CONTRACTOR:
Name
Address

11) PROPOSED WELL WORK: Drill X Drill Deeper ____ Redrill ____ Stimulate X
Plug Off Old Formation ____ Perforate New Formation ____ Convert ____
Other Physical Change in Well (specify) ____

12) Geological target formation Berea Depth 2,610 Ft. (Top) to 2,631 Ft. (Bottom)

13) Estimated depth of completed well (or actual depth of existing well) 2731' Ft.

14) Approximate water strata depths: Fresh 510 Ft. Salt 1,210 Ft.

15) Approximate coal seam depths: 570 Ft.

16) Is coal being mined in the area? ____ Yes X No

17) Virgin reservoir pressure in target formation: 1,250 psig. Source Estimated

18) Estimated reservoir fracture pressure: 2,650 psig.

19) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour 25 BBL Bottom Hole Pressure 2,400 psi

20) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES and other chemicals as needed to maintain water quality and improve oil recovery. Fresh water, produced water, bactericides

21) FILTERS (IF ANY) Cartridge filters and/or coal bed filters

22) SPECIFICATION FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL

23) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS Size	Grade	Weight	New	Used	FOOTAGE INTERVALS For Drilling	Left in Well	CEMENT FILLUP OR SACKS (CU. FT.)	PACKERS
Conductor									Kinds
Fresh Water	7"	L.S.	17#	X		670'	670'	Cement to Surface	Tension
Coal									Sizes
Intermediate									2.375" x 4.5"
Production	4 1/2"	J-55	10.5#	X		2731'	2731'	150 sacks	Depths Set
Tubing	2 3/8"	J-55	4.6#	X		2425'	2425'		2325'
Liners									Perforations
									Top Bottom

RDT 05/02/13

24) APPLICANTS OPERATING RIGHTS were acquired from Isaac and Laura Bays
by Deed ____ Lease X Other Contract ____ Dated May 7, 1904 of record in the
Lincoln County Clerk's Office in ____ Book 33 at Page 394

Received
MAY 10 2013
Office of Oil and Gas
WV Dept. of Environmental Protection

4303468S

WW-2B1 Well No. M. A. Bays No. 124

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.

If no water well or spring is located within 1000 feet, the Chief may require the operator to sample and analyze water from a water well or spring within 2000 feet of the proposed well site.

Be advised, you have the right to sample and analyze any water supply at your own expense.

The laboratory used by the operator to analyze the samples will be approved by the Chief. The operator named below has decided to use the following laboratory to analyze the water samples:

__X__ Contractor Name Sturm Environmental Services
_____ Well operator's private laboratory

Well Operator HG Energy, LLC
Address 5260 Dupont Road
Parkersburg, WV 26101

Telephone 304-420-1119

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underlining which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site please indicate such.

Received

Special Note:
Water sampling was completed through out the Griffithsville area for the UIC permit review late in 2012. Per Jamie Peterson, WVDEP, the timing of that large UIC sampling was sufficent for this Griffithsville project. MAY 10 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

4303468S

Received
Office of Oil & Gas

Form WW-9
Rev. 10/94

JUN 13 2013

Page 3 of 3
API Number 47- 043 -
Operator's Well No. M. A. Bays No. 124

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 HG Energy, LLC OP Code 494497948
Watershed Porter Fork Quadrangle Griffithsville 7.5'
Elevation 1140' County Lincoln District Duval
Description of anticipated Pit Waste: Fluids encountered in drilling shallow well.
Do you anticipate more than 5,000 bbls of water to complete the proposed well work? Yes ___ No X
Will a synthetic liner be used in pit? Yes If so, what mil.? ~~10 Mil.~~ 20 MIL
Proposed Disposal Method For Treated Pit Wastes:
X 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, fresh water, oil based, etc. Air, Fresh Water
- If oilbased, what type? Synthetic, petroleum, etc. NA
Additives to be used? Water, Soap, KCl
Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc.
- If left in pit and plan to solidify, what medium will be used? Cement, lime, sawdust Native soil, cement, lime
- Landfill or offsite name/permit number?

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature Diane C White
Company Official (Typed Name) Diane C. White
Company Official Title Accountant

Subscribed and sworn before me this 13 day of JUNE 2013

Tina L Pethtel Notary Public

My commission expires NOV. 12 2018

Form WW-9

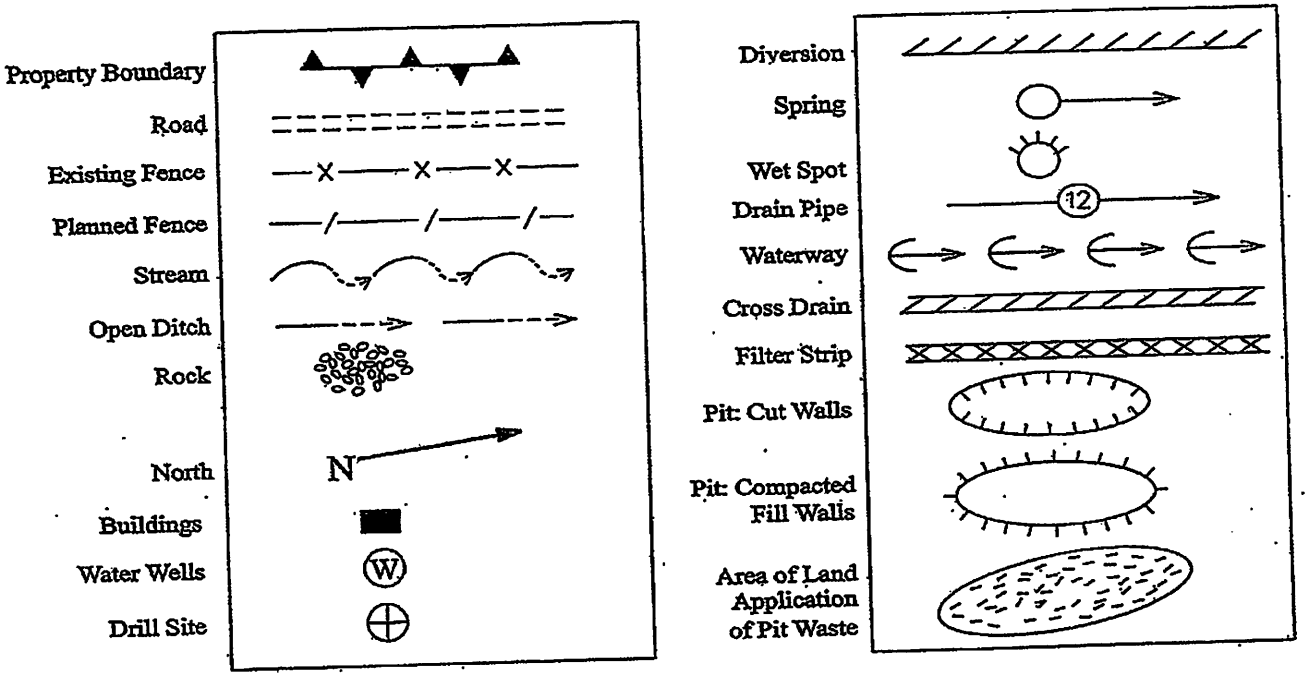
OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
TINA L. PETHTEL
HG Energy, LLC
5260 Dupont Road
Parkersburg, West Virginia 26101
My Commission Expires Nov. 12, 2018

Received
Office of Oil & Gas

WW9-Rack

4303468S

Legend



Area I

Proposed Revegetation Treatment: Acres Disturbed Approx. 1.0 Ac. Prevegetation pH _____

Area II

Approx. 1.0 Ac.

Lime 2 Tons/Acre or Correct to pH 6.5

Fertilizer (10-20-20 or Equivalent) 500 Lbs./Acre (500 lbs. Minimum)

Mulch Straw 2 Tons/Acre

SEED MIXTURES

Area I (Location)

Seed Type	Lbs/Ac.
Tall Fescue	40
Ladino Clover	5

Area II (Road)

Seed Type	Lbs/Ac.
Tall Fescue	40
Ladino Clover	5

Attach:
Drawing(s) of road, location, pit and proposed area for land application
Photocopied section of involved 7.5' topographic sheet.

Plan approved by: Ralph D. Triplett

Comments: _____

Title: District Inspector Date: May 2, 2013

Field Reviewed? (✓) Yes ( ) No

4303468S

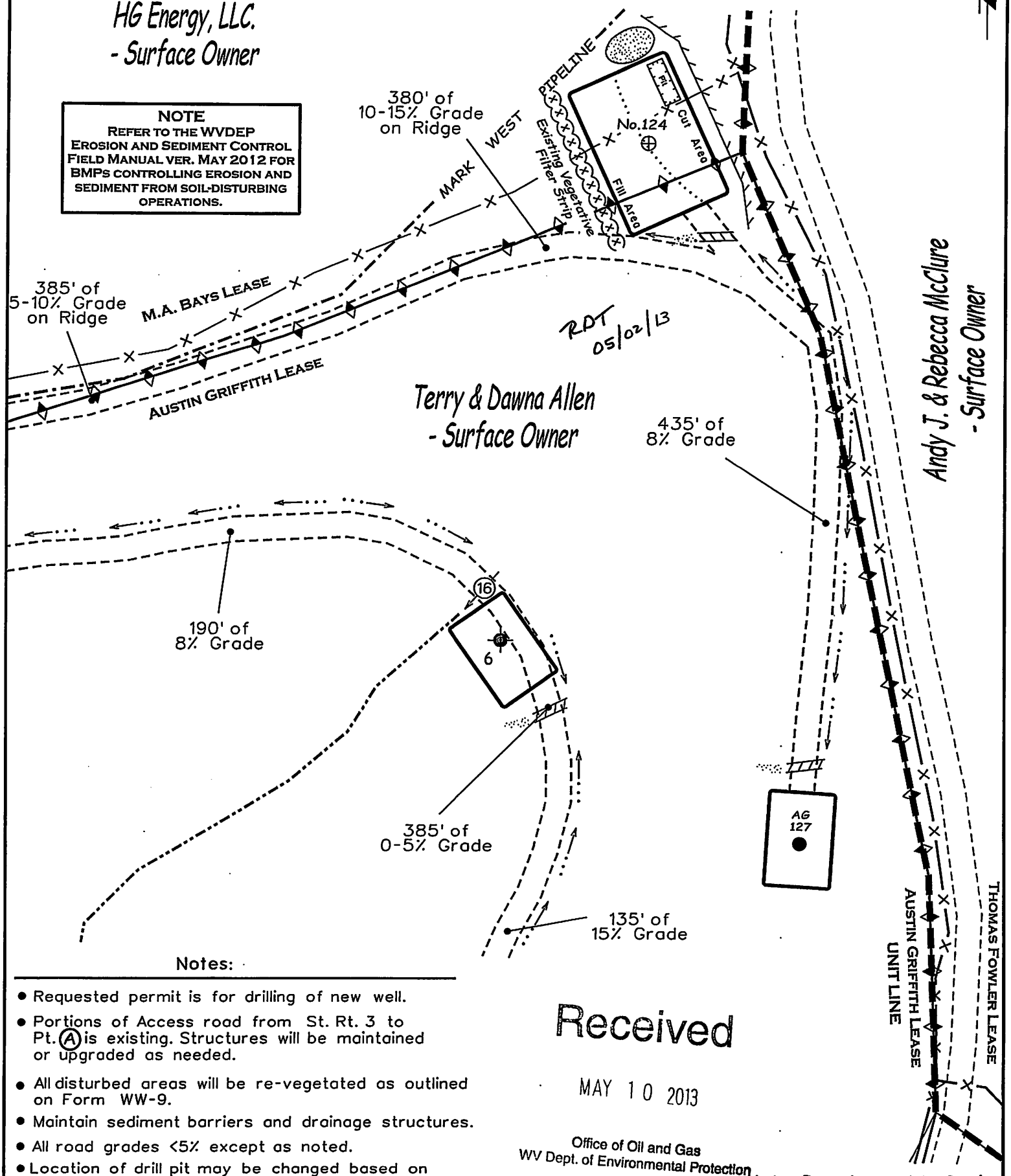
PAGE 1

Reclamation Plan For:

M.A. Bays No. 124

HG Energy, LLC.
- Surface Owner

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.
- Portions of 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.

Received

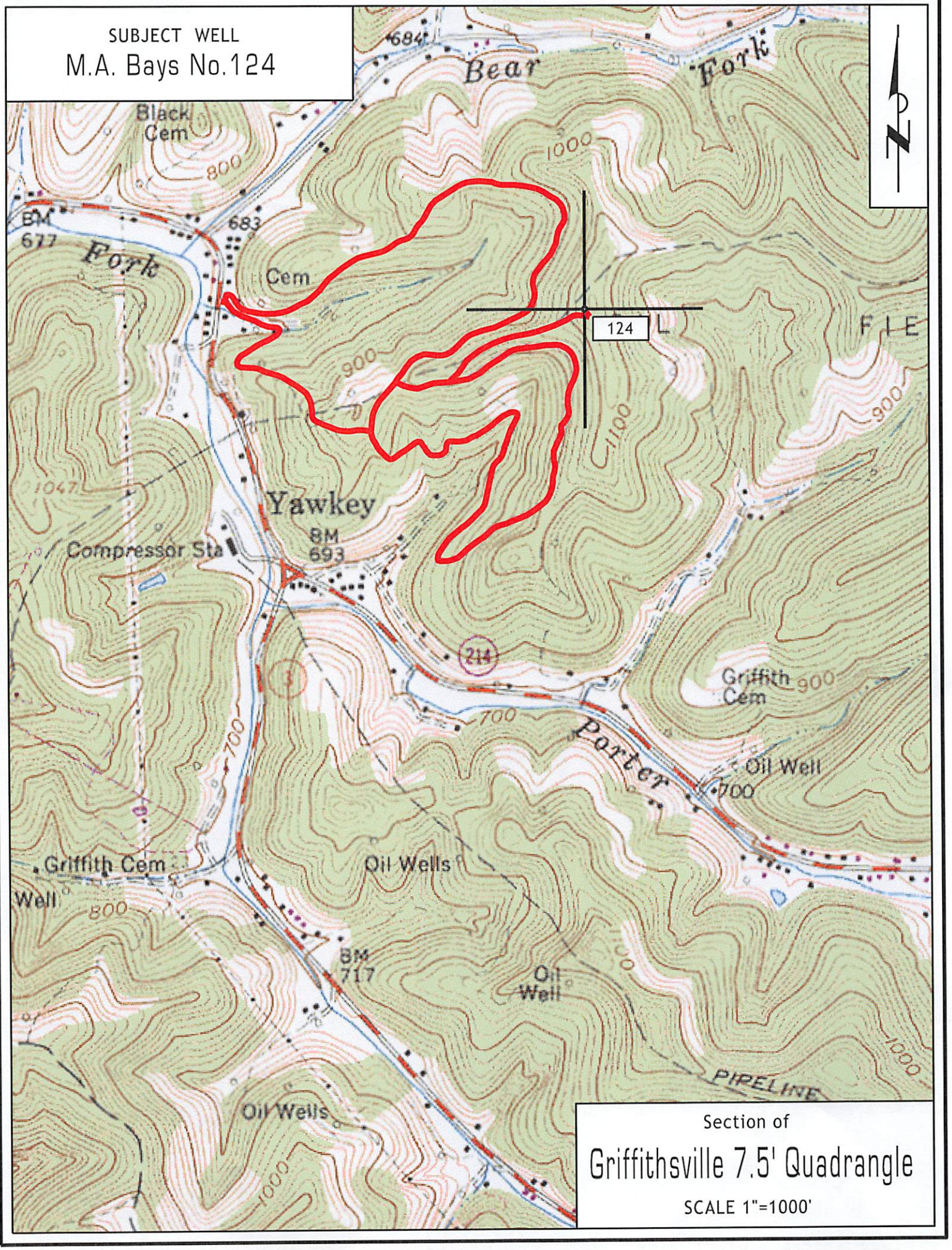
MAY 10 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

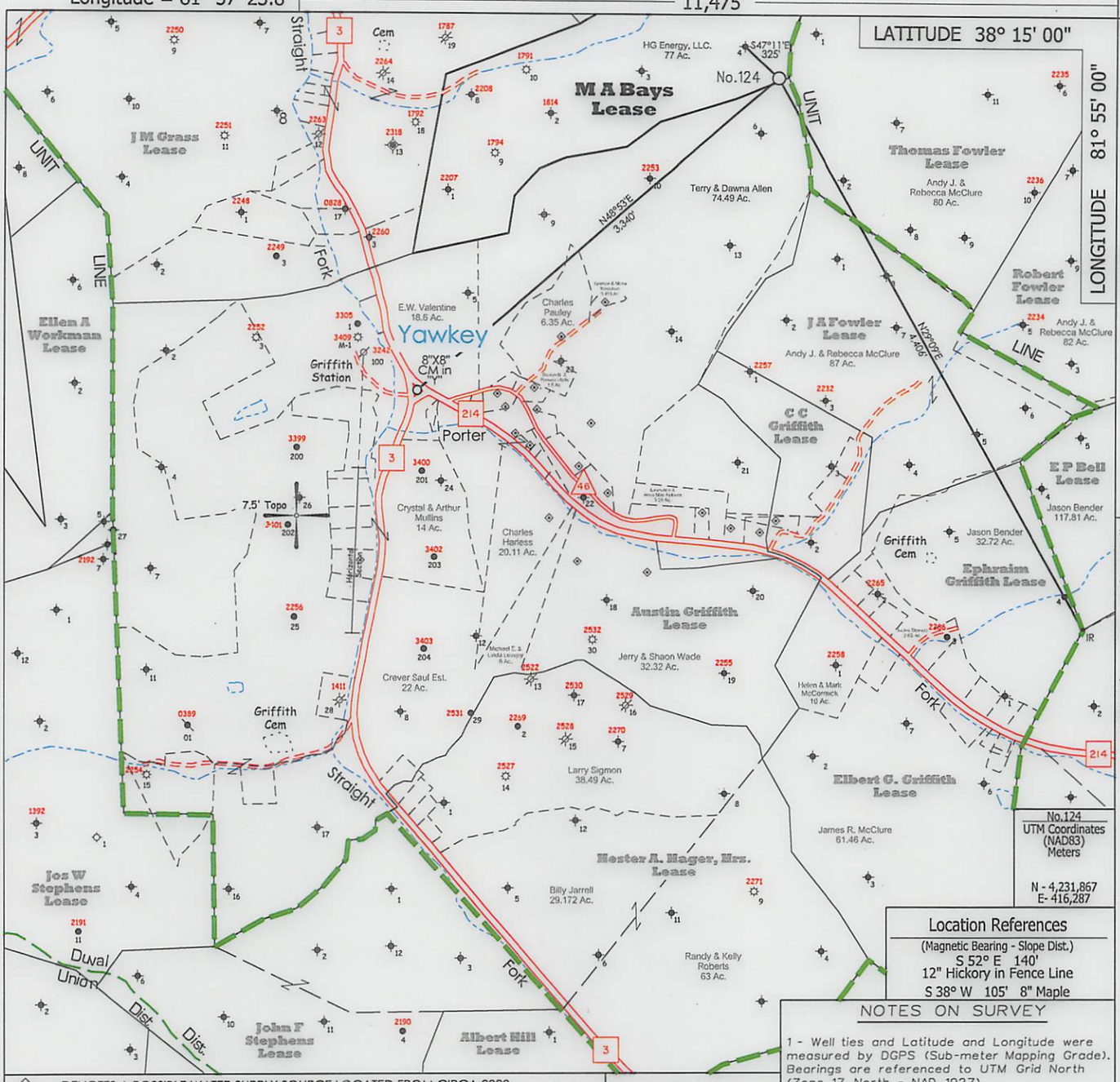
Note: Drawing not to Scale

4303468 S

SUBJECT WELL
M.A. Bays No.124



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



◇ - DENOTES A POSSIBLE WATER SUPPLY SOURCE LOCATED FROM CIRCA 2009 AERIAL PHOTOGRAPHY - NOT BY SURVEY. OTHER SOURCES MAY BE PRESENT.

┼ - DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

NO KNOWN WATER SUPPLY SOURCES ARE LOCATED WITHIN 1000' OF PROPOSED WELL

NOTES ON SURVEY

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).

2 - Surface owner information obtained from the Lincoln County Assessor's tax records.

FILE NO. 1046-65
MAP NO. N S E W
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 MINES.

(SIGNED) _____
TIMOTHY P. ROUSH PS 793

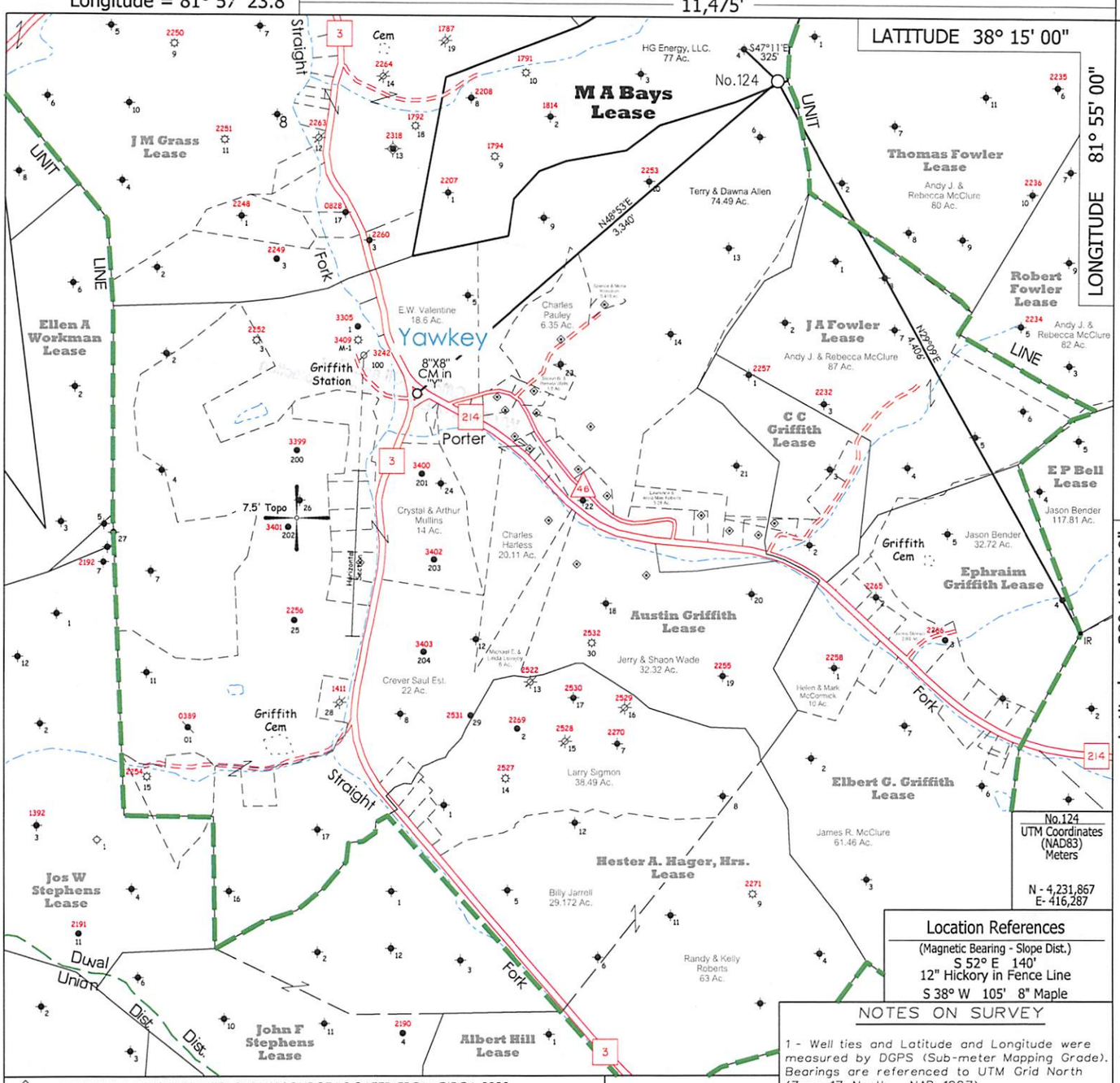
TIMOTHY P. ROUSH LICENSED No. 793 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE February 12, 2013
FARM M.A. Bays No.124
API WELL NO. 47 - 043 - 03468S

WELL TYPE: OIL ___ GAS ___ LIQUID INJECTION X WASTE DISPOSAL ___
(IF "GAS") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW ___
LOCATION: ELEVATION 1,140' WATERSHED Porter Fork
DISTRICT Duval COUNTY Lincoln
QUADRANGLE Griffithsville 7.5'
SURFACE OWNER Terry & Dawna Allen ACREAGE 74.49 Ac.
OIL & GAS ROYALTY OWNER HG Energy, LLC., et al LEASE ACREAGE 77 Ac.
LEASE NO. 56489-50
PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X 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 2,731'
WELL OPERATOR HG Energy LLC. DESIGNATED AGENT Mike Kirsch
ADDRESS 5260 DuPont Road Parkersburg, WV 26101 ADDRESS 5260 DuPont Road Parkersburg, WV 26101

FORM IV-6



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

DATE February 12, 2013
FARM M.A. Bays No.124
API WELL NO.
47 - 043 - 03468S

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(IF "GAS") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW ___
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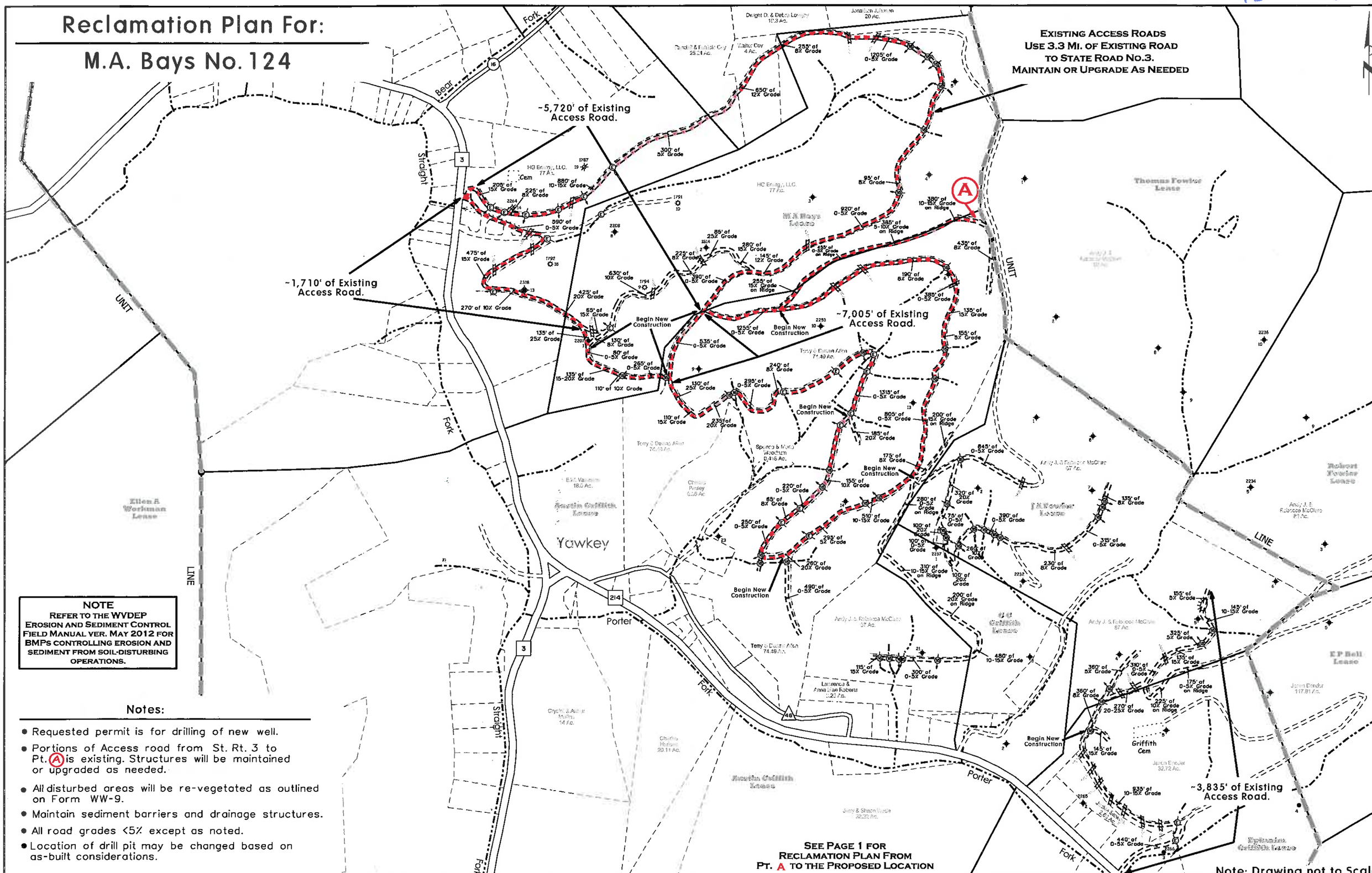
WELL OPERATOR HG Energy LLC. DESIGNATED AGENT Mike Kirsch
ADDRESS 5260 DuPont Road Parkersburg, WV 26101 ADDRESS 5260 DuPont Road Parkersburg, WV 26101

FORM IV-6

4303468S

Reclamation Plan For:

M.A. Bays No. 124



NOTE
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Notes:

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- 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.

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

Note: Drawing not to Scale