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

January 04, 2016

WELL WORK PERMIT

Vertical Well

This permit, API Well Number: 47-7901539, issued to HARD ROCK EXPLORATION, INC., 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: HR-602
Farm Name: YOUNG, GARY D.
API Well Number: 47-7901539
Permit Type: Vertical Well
Date Issued: 01/04/2016

Promoting a healthy environment.

7901539

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, drilling ceased, completion of any other permitted well work and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

9. Operator shall drill with a water based mud system from the top of the Conasauga group to TD.

west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street, SE Charleston, WV 25304
(304)926-0499, Ext 1656

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
dep.wv.gov

November 2, 2015

Department of Environmental Protection
Office of Oil and Gas
Charleston, WV 25304

RE: Application for Deep Well Permit – API #47-079-01539

COMPANY: Hard Rock Exploration Inc.

FARM: Gary Young #HR-602D

COUNTY Putnam DISTRICT: Scott QUAD: Winfield

The application for the above company is **approved to drill to Rome (with Rogersville completion).**

The applicant has complied with the provision of Chapter 22C-9, of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

1. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners; n/a

2. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells, well name, and the name and address of the operator; @see below

3. Provided a plat showing that the proposed location is a distance of 687 feet from the nearest **lease line** or unit boundary and showing the following wells drilled to or capable of producing from the objective formation within 3,000 feet of the proposed location.

Sincerely,

Cindy Raines

Cindy Raines
Executive Assistant

Location is within 3,000 feet of:
47-079-00755 (Oriskany well)
47-079-00750 (Oriskany well)

7901539

CK #16708
$900

WW - 2B
(Rev. 8/10)

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

04 688

1) Well Operator: Hard Rock Exploration, Inc.	494464205	Putnam	Scott	Winfield, 7.5'
	Operator ID	County	District	Quadrangle

2) Operator's Well Number: HR-602 3) Elevation: 983'

4) Well Type: (a) Oil _____ or Gas X

(b) If Gas: Production X / Underground Storage _____

Deep X / Shallow _____

5) Proposed Target Formation(s): Rogersville Shale Proposed Target Depth: 15,000'

6) Proposed Total Depth: 15000' Feet Formation at Proposed Total Depth: Rome

7) Approximate fresh water strata depths: anticipated interval 235'-450'

8) Approximate salt water depths: 1530'-1800'

9) Approximate coal seam depths: POSSIBLE @ 676' - 681' gpm

10) Approximate void depths,(coal, Karst, other): _____

11) Does land contain coal seams tributary to active mine? _____

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)

Drill using dry air / foam and set 20" casing to protect freshwater aquifers and cement casing to surface. Drill using air /foam or fluid to set 16" casing and cement casing to surface.

Drill on Air and set 10 3/4" casing and perform two stage cement job and CTS. Drill 9.5" hole on air (water based mud if needed) and set 7 5/8" casing. Cement 7 5/8" back to the 10 3/4" casing

★ Drill on ~~air and~~ water based mud system through Conasauga group and into the Rome. Set and cement 4.5" casing. Fluid / acidizing treatments may be required and are anticipated to utilize relatively low volumes.

SEE PERMIT CONDITION 9 gpm

13) **CASING AND TUBING PROGRAM**

TYPE SPECIFICATIONS FOOTAGE INTERVALS CEMENT

	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor	26"			80	80	cts
Fresh Water	20"	J55	94	500	500	715 CTS
COAL	16"	J55	84	2540	2540	1750 CTS
Intermediate	10.75"	P-110	55.5	6550	6550	3900 CTS
INTERMEDIATE	7.625"	P-110	33.7	9300	9300	700
PRODUCTION	4.5"	q-125	15.1	15000	15000	850
Liners						

10/27/2015

Packers: Kind: _____

gpm Sizes: _____

Depths Set _____

WW-2A
(Rev. 6-14)

1). Date: July 24, 2015

2.) Operator's Well Number HR-602

3.) API Well No.: State 47- County 079 - Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4) Surface Owner(s) to be served:
(a) Name Gary D. & Penny R. Young
Address 579 Rocky Step Road
Winfield, WV 25213
(b) Name
Address
(c) Name
Address

6) Inspector Jamie Stevens
Address 105 Kentuck Road
Kenna,WV 25248
Telephone (304)206-7775

5) (a) Coal Operator
Name
Address

(b) Coal Owner(s) with Declaration
Name Gary D. & Penny R. Young
Address 579 Rocky Step Road
Winfield, WV 25213
Name
Address

(c) Coal Lessee with Declaration
Name
Address

TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:

___ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas

OR

X Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22-6 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through ___ on the above named parties by:

___ Personal Service (Affidavit attached)
X Certified Mail (Postmarked postal receipt attached)
___ Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 35 CSR 4, and I agree to the terms and conditions of any permit issued under this application.

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, 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 Hard Rock Exploration, Inc.
By:
Its: President
Address: 1244 Martins Branch Road
Charleston, WV 25312
Telephone: (304)984-9004
Email: mbeckett@hardrockexploration.com

Subscribed and sworn before me this ___ day of ___, ___

Notary Public Joan L. Beane

My Commission Expires Sept. 6, 2022

NOTARY PUBLIC OFFICIAL SEAL
JOAN L. BEANE
State of West Virginia
My Commission Expires Sept. 6, 2022
1244 MARTINS BRANCH ROAD, CHARLESTON, WV 25312

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 normal 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

WW-2A
(Rev. 6-14)

1). Date: July 24, 2015

2.) Operator's Well Number HR-602

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DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE AND APPLICATION FOR A WELL WORK PERMIT

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Address 579 Rocky Step Road WAIVER
Winfield, WV 25213
(b) Name
Address
(c) Name
Address

6) Inspector Jamie Stevens
Address 105 Kentuck Road
Kenna,WV 25248
Telephone (304)206-7775

5) (a) Coal Operator
Name
Address

(b) Coal Owner(s) with Declaration
Name Gary D. & Penny R. Young WAIVER
Address 579 Rocky Step Road
Winfield, WV 25213
Name
Address

(c) Coal Lessee with Declaration
Name
Address

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OR

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NOTARY PUBLIC OFFICIAL SEAL
JOAN L. BEANE
State of West Virginia
My Commission Expires Sept. 6, 2022
1244 MARTINS BRANCH RD. CHARLESTON, WV 25312

Well Operator Hard Rock Exploration, Inc.
By:
Its: President
Address: 1244 Martins Branch Road
Charleston, WV 25312
Telephone: (304)984-9004
Email: mbeckett@hardrockexploration.com

Subscribed and sworn before me this 10th day of August, 2015

Joan L. Beane Notary Public

My Commission Expires Sept. 6, 2022

RECEIVED
Office of Oil and Gas
SEP 08 2015
WV Department of
Environmental Protection

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 normal 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

CK 16708
900.00

WW-2A Surface Waiver

SURFACE OWNER WAIVER

County Putnam

Operator Hard Rock Exploration, Inc.

Operator well number HR-602

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW2-A

The well operator named on page WW2A is applying for a permit from the State to do oil or gas well work. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Time Limits and methods for filing comments. The law requires these materials to be served on or before the date the operator files his Application. You have **FIFTEEN (15) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Comments must be in writing. Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

1) The proposed well work will constitute a hazard to the safety of persons.
2) The soil erosion and sediment control plan is not adequate or effective;
3) Damage would occur to publicly owned lands or resources;
4) The proposed well work fails to protect fresh water sources or supplies;
5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation...".

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

List of Water Testing Laboratories. The Office maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Chief to obtain a copy.

VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application for a Well Work Permit on Form WW2-A, and attachments consisting of pages 1 through ___ including a work order on Form WW2-B, a survey plat, and a soil and erosion plan, all for proposed well work on my surface land as described therein.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON

Penny R. Young
Signature Date 8/26/15

Penny R. Young
Gary D. Young
Print Name

FOR EXECUTION BY A CORPORATION, ETC.

Company Name
By
Its

RECEIVED
Office of Oil and Gas
SEP 08 2015
WV Department of Environmental Protection

Signature Date

WW-2A Surface Waiver

SURFACE OWNER WAIVER

County Putnam Operator Hard Rock Exploration, Inc.
Operator well number HR-602

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Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

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FOR EXECUTION BY A NATURAL PERSON

_____ Date _____
Signature

_____
Print Name

FOR EXECUTION BY A CORPORATION, ETC.

Company Name _____
By _____
Its _____ Date

_____
Signature Date

RECEIVED
Office of Oil and Gas
SEP 08 2015
WV Department of
Environmental Protection

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Putnam
Operator Hard Rock Exploration, Inc. Operator's Well Number HR-602

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

To the coal operator, owner, or lessee named on page WW2-A. You are hereby notified that any objection you wish to make or are required to make by WV Code 22-6-15, 16 or 17, must be filed with the Chief of the Office of Oil and Gas within fifteen (15) days after the receipt of this application by the Office. Mail objections to:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0499 extension 1654

WAIVER

The undersigned coal operator _____/ owner X / lessee _____/ of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

FOR EXECUTION BY A NATURAL PERSON

Signature Date 8/26/15

FOR EXECUTION BY A CORPORATION, ETC.

Company Name
By
Its Date

Signature Date

RECEIVED
Office of Oil and Gas
SEP 08 2015
WV Department of
Environmental Protection

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Putnam
Operator Hard Rock Exploration, Inc. Operator's Well Number HR-602

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Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0499 extension 1654

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FOR EXECUTION BY A NATURAL PERSON

_____ Date _____
Signature

FOR EXECUTION BY A CORPORATION, ETC.

Company Name _____
By _____
Its _____ Date

_____
Signature Date

RECEIVED
Office of Oil and Gas
SEP 08 2015
WV Department of
Environmental Protection

WW-2A1
(Rev. 1/11)

Operator's Well Number HR-602

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6, Section 8(d)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

(1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;

(2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Gary D. & Penny R. Young	Hard Rock Exploration, Inc.	% of 1/8	74/28

Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: Hard Rock Exploration, Inc.
By: Its: President

RECEIVED
Office of Oil and Gas
SEP 08 2015
WV Department of
Environmental Protection

WW-2B1
(5-12)

Well No. HR-602

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	Standard Labs or Sturm Lab
Sampling Contractor	Standard Labs or Sturm Lab

Well Operator	Hard Rock Exploration, Inc.
Address	1244 Martins Branch Road
	Charleston, WV 25312
Telephone	(304)984-9004

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.

WATER NOTICE
FOR
HARD ROCK EXPLORATION, INC.
WELL HR-602D

WATER SOURCES IDENTIFIED WITHIN 2,000' OF PROPOSED WELL SITE:

NO WATER SOURCES FOUND

TRUE LINE SURVEYING, INC.
July 23, 2015

RECEIVED
Office of Oil and Gas
SEP 0 8 2015
WV Department of
Environmental Protection

WW-9
(2/15)

API Number 47 - 079 -
Operator's Well No. HR-602

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Hard Rock Exploration, Inc. OP Code 494464205

Watershed (HUC 10) Lick Run of Little Hurricane Creek Quadrangle Winfield, WV 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: Drill cuttings, brine, cement returns

Will a synthetic liner be used in the pit? Yes ☑ No ☐ If so, what ml.? 20

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)

Will closed loop system be used? If so, describe: yes, solids will be separated on site from the mud - then solidified and hauled to a disposal facility

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

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

Additives to be used in drilling medium? barite, viscosifier, filtration control, soda ash, bacteriacide, Corrosion Inhibitor, Caustic soda.

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Leave in pit ; Haul to landfill

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

-Landfill or offsite name/permit number? WM Northwestern Landfill

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

Company Official (Typed Name) James L Stephens

Company Official Title President

Subscribed and sworn before me this 27 day of Oct, 2015

Joan L. Beane Notary Public

My commission expires Sept. 6, 2022

NOTARY PUBLIC OFFICIAL SEAL
JOAN L. BEANE
State of West Virginia
My Commission Expires Sept. 6, 2022
1244 MARTINS BRANCH RD. CHARLESTON, WV 25312

WW-9
(2/15)

API Number 47 - 079 -

Operator's Well No. HR-602

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Hard Rock Exploration, Inc. OP Code 494464205

Watershed (HUC 10) Lick Run of Little Hurricane Creek Quadrangle Winfield, WV 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: Drill cuttings, brine, cement returns

Will a synthetic liner be used in the pit? Yes ☑ No ☐ If so, what ml.? 20

Proposed Disposal Method For Treated Pit Wastes:

- ■ Land Application
- ■ Underground Injection (UIC Permit Number UIC2D0190460, 3416729685)
- ☐ Reuse (at API Number)
- ☐ Off Site Disposal (Supply form WW-9 for disposal location)
- ☐ Other (Explain)

Will closed loop system be used? If so, describe: yes, solids will be separated on site from the mud - then solidified and hauled to a disposal facility

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

-If oil based, what type? Synthetic, petroleum, etc. No Diesel fuels ok. Cooking oil OK

Additives to be used in drilling medium? barite, viscosifier, filtration control, soda ash, bacteriacide, Corrosion Inhibitor, Caustic soda.

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Leave in pit ; Haul to landfill

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

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Company Official Signature

Company Official (Typed Name) James L. Stephens

Company Official Title President

Subscribed and sworn before me this 10th day of August, 2015

Joan L. Beane Notary Public

My commission expires Sept. 6, 2022

NOTARY PUBLIC OFFICIAL SEAL
JOAN L. BEANE
State of West Virginia
My Commission Expires Sept. 6, 2022
1244 MARTINS BRANCH RD. CHARLESTON, WV 25312

RECEIVED
Office of Oil and Gas
SEP 08 2015
WV Department of
Environmental Protection

Form WW-9

Operator's Well No. HR-602

Hard Rock Exploration, Inc.

Proposed Revegetation Treatment: Acres Disturbed 3.26 Prevegetation pH 5.5

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type _____

Fertilizer amount 500 lbs/acre

Mulch Hay/Straw/Paper (Paper at 1600 lbs/acre) Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Red Top	15	Red Top	15
Orchard Grass	25	Orchard Grass	25
Perennial Rye/Crimson Red Clover	25 Each	Perennial Rye/Crimson Red Clover	25 Each
Annual Rye	40	Annual Rye	40

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.

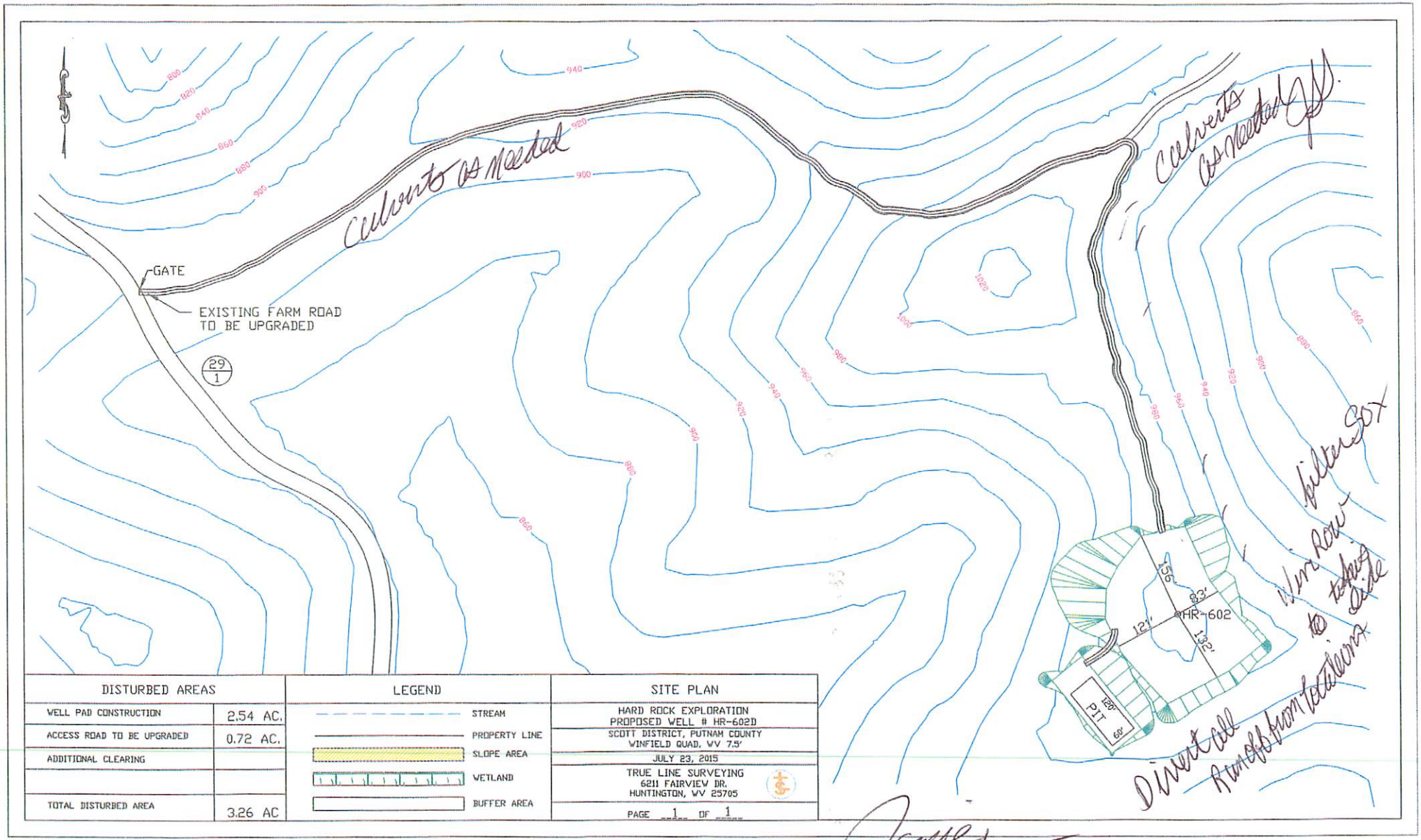
Plan Approved by: Jamie Stevens

Comments: All OK. on seed with landowner approval.

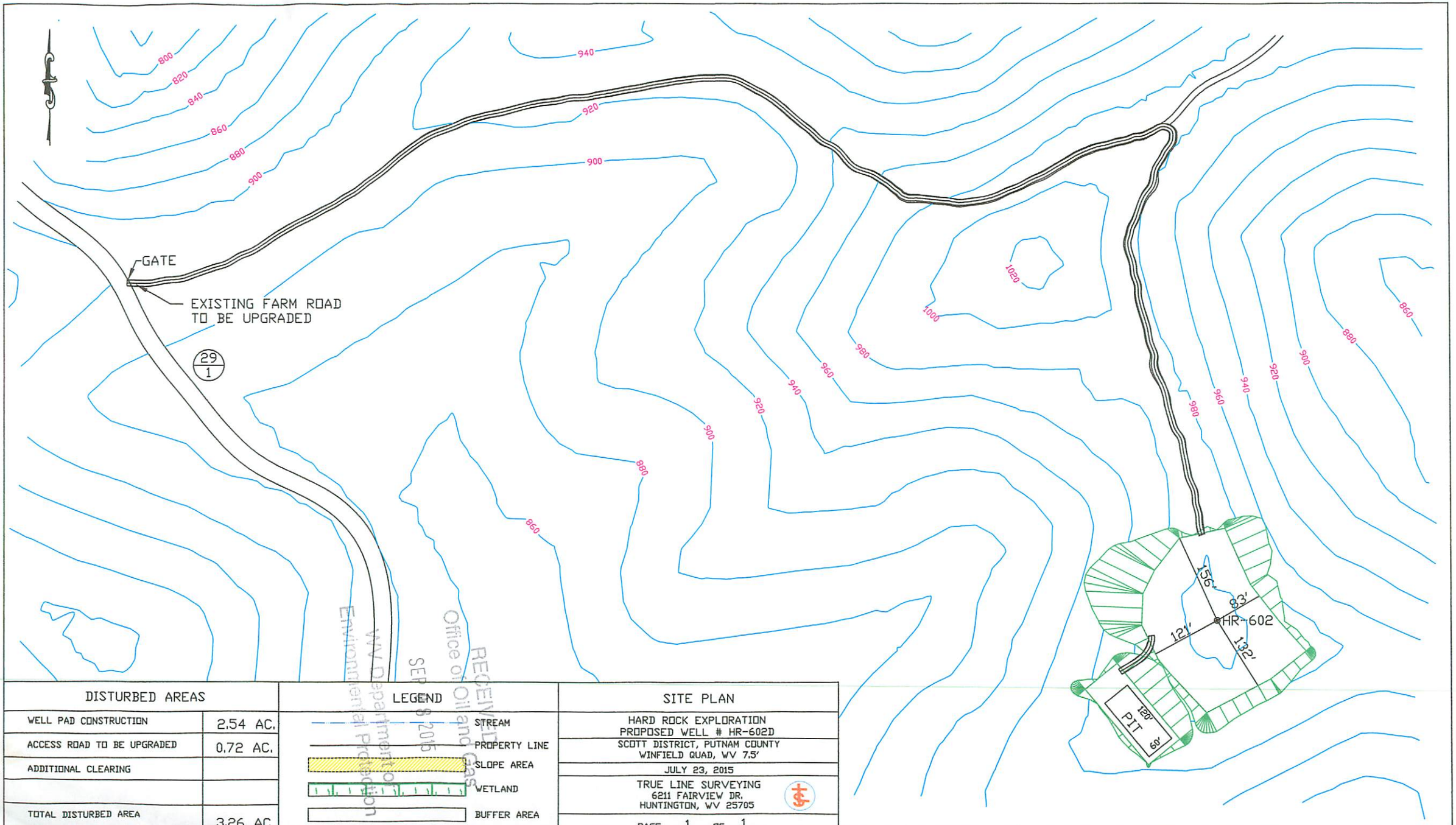
Title: Jamie Stevens Date: Oct. 27, 2015

Field Reviewed? (✓) Yes ( ) No

Hard Rock Exploration



Jamie 10/27/2015.



DISTURBED AREAS	
WELL PAD CONSTRUCTION	2.54 AC.
ACCESS ROAD TO BE UPGRADED	0.72 AC.
ADDITIONAL CLEARING	
TOTAL DISTURBED AREA	3.26 AC

LEGEND

- STREAM
- PROPERTY LINE
- SLOPE AREA
- WETLAND
- BUFFER AREA

SITE PLAN

HARD ROCK EXPLORATION
PROPOSED WELL # HR-602D
SCOTT DISTRICT, PUTNAM COUNTY
WINFIELD QUAD, WV 7.5'

JULY 23, 2015

TRUE LINE SURVEYING
6211 FAIRVIEW DR.
HUNTINGTON, WV 25705

PAGE 1 OF 1

RECEIVED
Office of Oil and Gas
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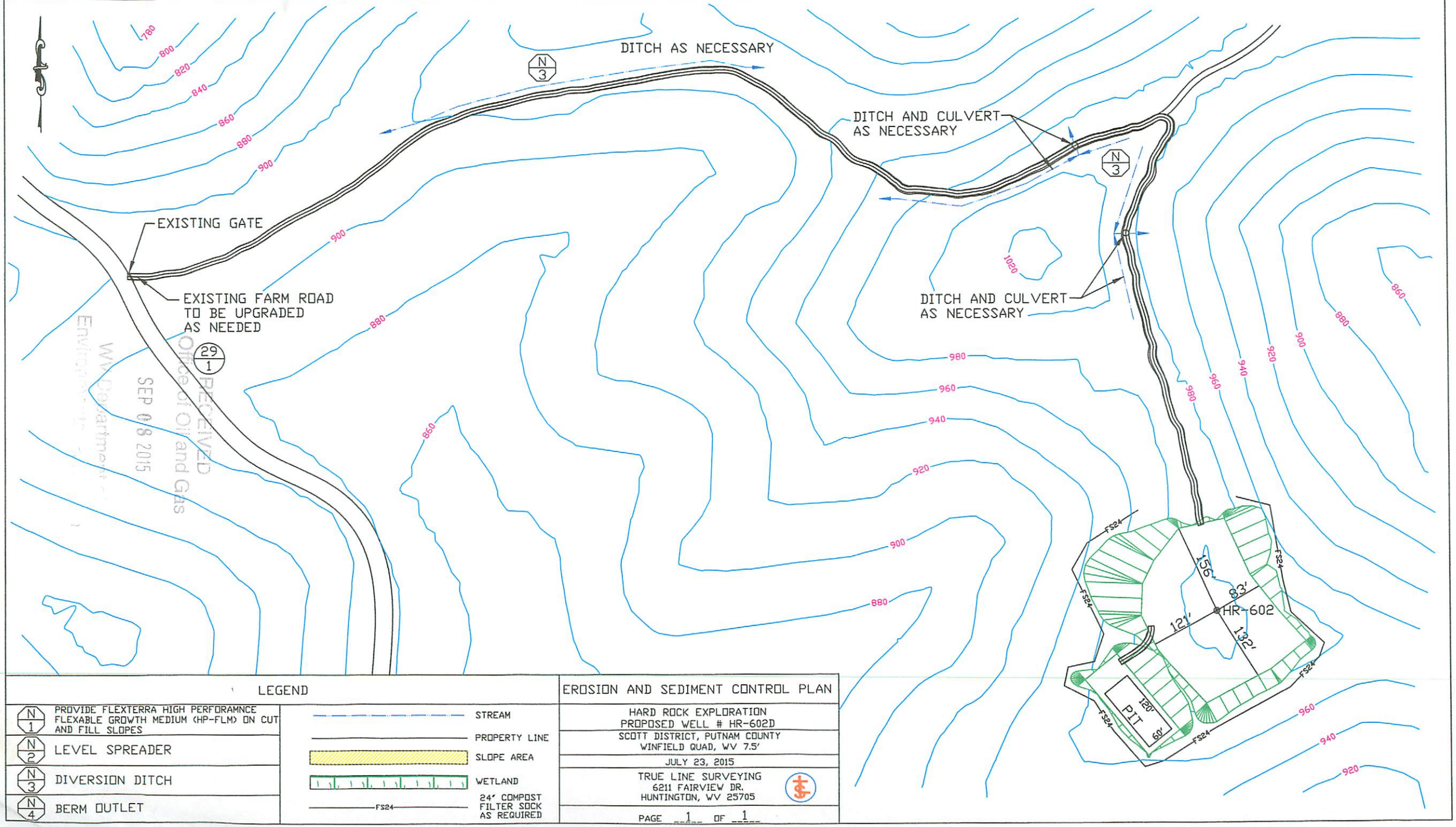

LEGEND

N 1	PROVIDE FLEXTERRA HIGH PERFORAMNCE FLEXABLE GROWTH MEDIUM (HP-FLM) ON CUT AND FILL SLOPES
N 2	LEVEL SPREADER
N 3	DIVERSION DITCH
N 4	BERM OUTLET

	STREAM
	PROPERTY LINE
	SLOPE AREA
	WETLAND
FS24	24" COMPOST FILTER SOCK AS REQUIRED

EROSION AND SEDIMENT CONTROL PLAN

HARD ROCK EXPLORATION
PROPOSED WELL # HR-602D
SCOTT DISTRICT, PUTNAM COUNTY
WINFIELD QUAD, WV 7.5'

JULY 23, 2015

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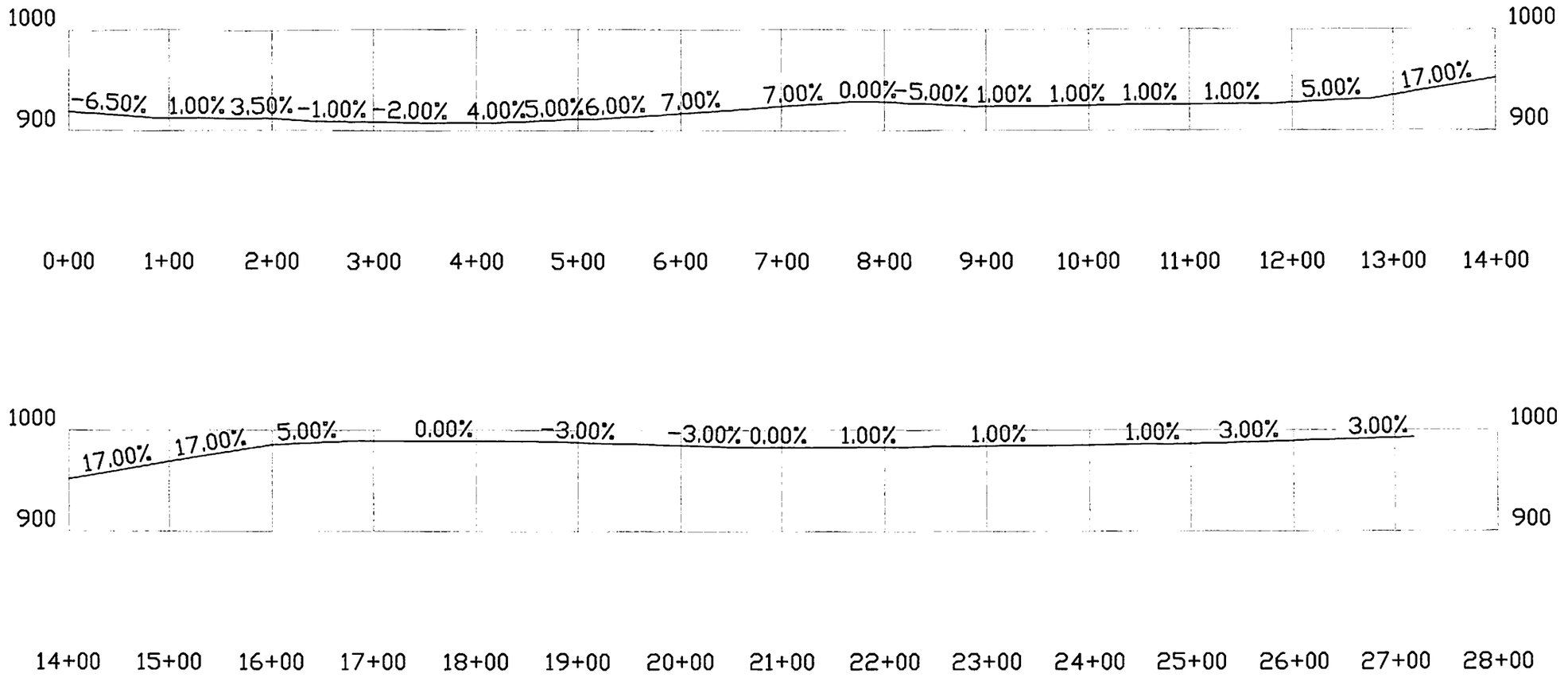
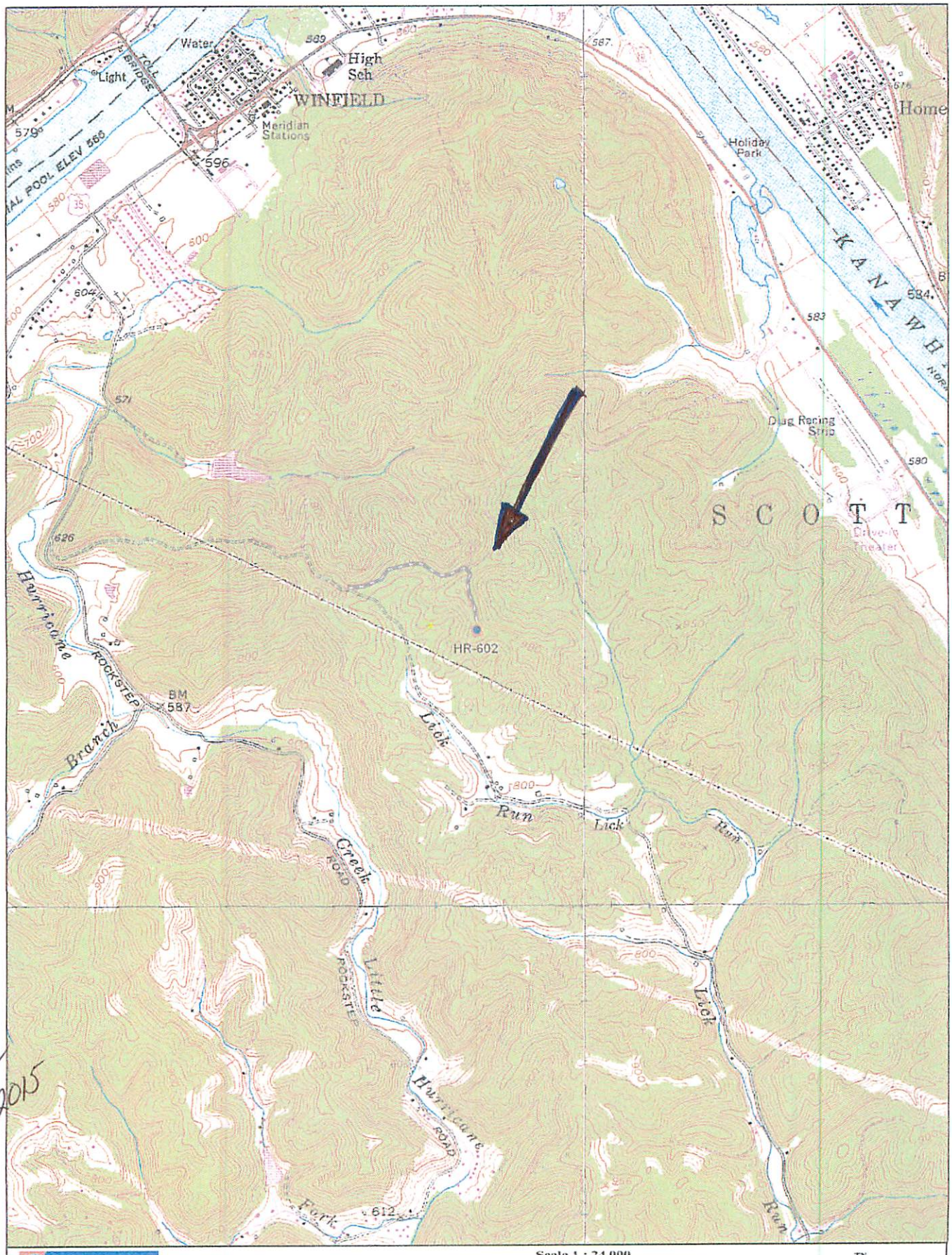
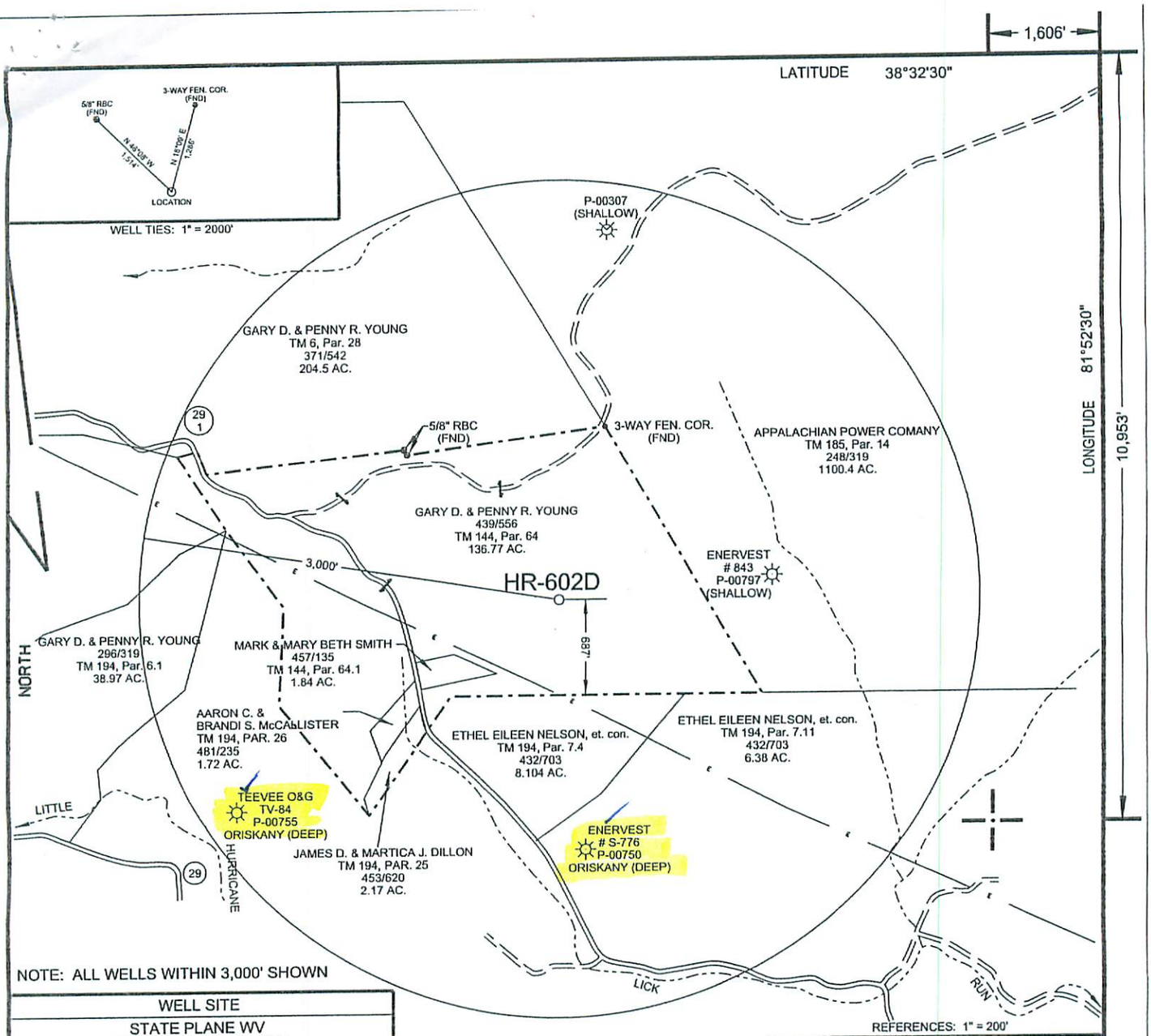


ROAD PROFILE
HARD ROCK EXPLORATION PROPOSED WELL # HR-602D
SCOTT DISTRICT, PUTNAM COUNTY WINFIELD QUAD, WV 7.5'
JULY 23, 2015
TRUE LINE SURVEYING 6211 FAIRVIEW DR. HUNTINGTON, WV 25705
PAGE 1 OF 1



Jamie
10/27/2015



WELL SITE
STATE PLANE WV SOUTH ZONE NAD 1927 N - 551,617.810 : E - 1,747,985.946
LATITUDE: (N) 38.5115984° LONGITUDE: (W) 81.8807474°
UTM NAD83 17 - 84W TO 78W, METERS N - 4,262,957.758 : E - 423,224.985

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. HR-602D.DGN
DRAWING NO. HR-602D
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY 1 : 200
PROVEN SOURCE OF ELEVATION 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 PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

(SIGNED) Paul E Miller
R.P.E. _____ L.L.S. 647

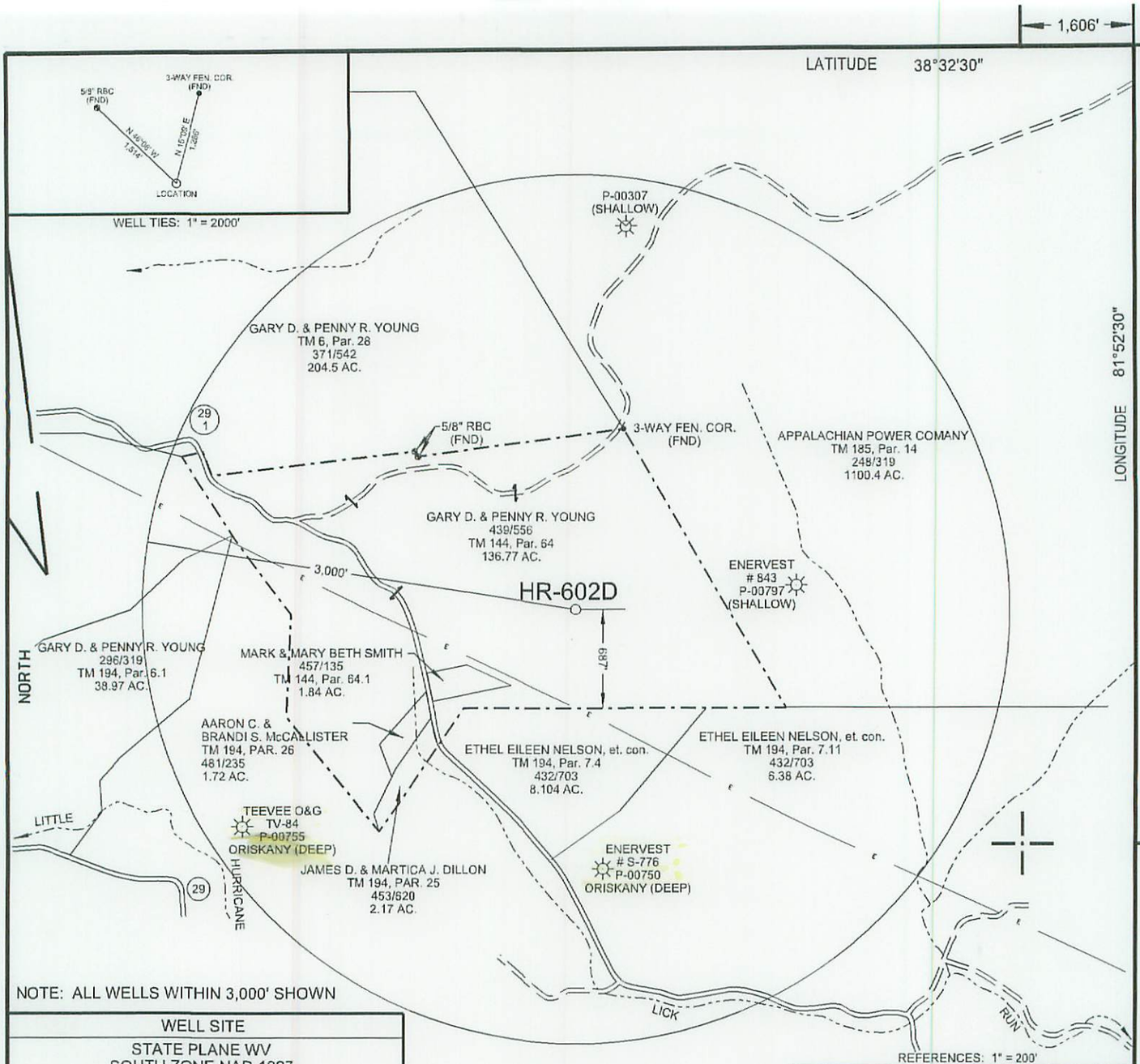
PAUL E. MILLER LICENSED No. 647 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR
PLACE SEAL HERE

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE SEPTEMBER 14, 20 15
OPERATOR'S WELL NO. HR-602D
API WELL NO.
47 (STATE) 079 (COUNTY) 01539 (PERMIT)

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION X STORAGE ___ DEEP X SHALLOW ___
LOCATION: ELEVATION 983' WATER SHED LICK RUN OF LITTLE HURRICANE CREEK
DISTRICT SCOTT COUNTY PUTNAM
QUADRANGLE WINFIELD, WV 7.5'
SURFACE OWNER GARY D. YOUNG ACREAGE 136.77
OIL & GAS ROYALTY OWNER GARY D. & PENNY R. YOUNG LEASE ACREAGE --
LEASE NO. ---
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 ROGERSVILLE ESTIMATED DEPTH 15,000'
WELL OPERATOR HARD ROCK EXPLORATION, INC. DESIGNATED AGENT JAMES L. STEPHENS
ADDRESS 1244 MARTINS BR. RD., CHARLESTON, WV 25312 ADDRESS SAME

FORM WW-6
COUNTY NAME
PERMIT



NOTE: ALL WELLS WITHIN 3,000' SHOWN

WELL SITE
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(SIGNED) Paul E. Miller
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PLACE SEAL HERE

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