



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

September 26, 2014

WELL WORK PERMIT

Horizontal Well


This permit, API Well Number: 47-8704741, 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-505A
Farm Name: FLINT, ANNA E. BATES, ET AL
API Well Number: 47-8704741
Permit Type: Horizontal Well
Date Issued: 09/26/2014

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.

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

1) Well Operator: Hard Rock Exploration, Inc. 494464205 Roane Reedy Reedy, WV 7.5'
Operator ID County District Quadrangle

87 4 512

2) Operator's Well Number: HR-505 3) Elevation: 712'

4) Well Type: (a) Oil _____ or Gas X
(b) If Gas: Production X / Underground Storage _____
Deep _____ / Shallow X

5) Proposed Target Formation(s): Lower Huron Proposed Target Depth: 4350'

6) Proposed Total Depth: 8090' Feet Formation at Proposed Total Depth: Lower Huron

7) Approximate fresh water strata depths: Pittsburg sand anticipated 447' - 500'

8) Approximate salt water depths: Anticipated salt water 1700'-1960'

Received

9) Approximate coal seam depths: None noted in offset wells

AUG 27 2014

10) Approximate void depths,(coal, Karst, other): None

11) Does land contain coal seams tributary to active mine? No Office of Oil and Gas
WV Dept. of Environmental Protection

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

Drill 12 3/8" hole on air/ Freshwater foam; Drill 8 3/4" hole on Air/Freshwater foam/Fluid; Drill Bottom hole on Air.

KOP-3750', Land curve- 4700'MD/ 4350'TVD , 4000'VS, 8090'TMD

Run 4.5" casing with open hole packer completion (Depths noted at bottom) -Set packers, cement on top packer, Fracture with Nitrogen gas

13) 8/20/14 **CASING AND TUBING PROGRAM**

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	
Conductor	13 3/8"	LS	37	30'	30'	na
Fresh Water	9 5/8"	LS	26	600'	600'	300cf cts
Coal						
Intermediate	7"	mc50	19	2400'	2400'	530cf cts
Production	4 1/2"	N-80	11.6	8090'	8090'	130cf
Tubing						
Liners						

Packers: Kind: Hydraulic Set open hole packer

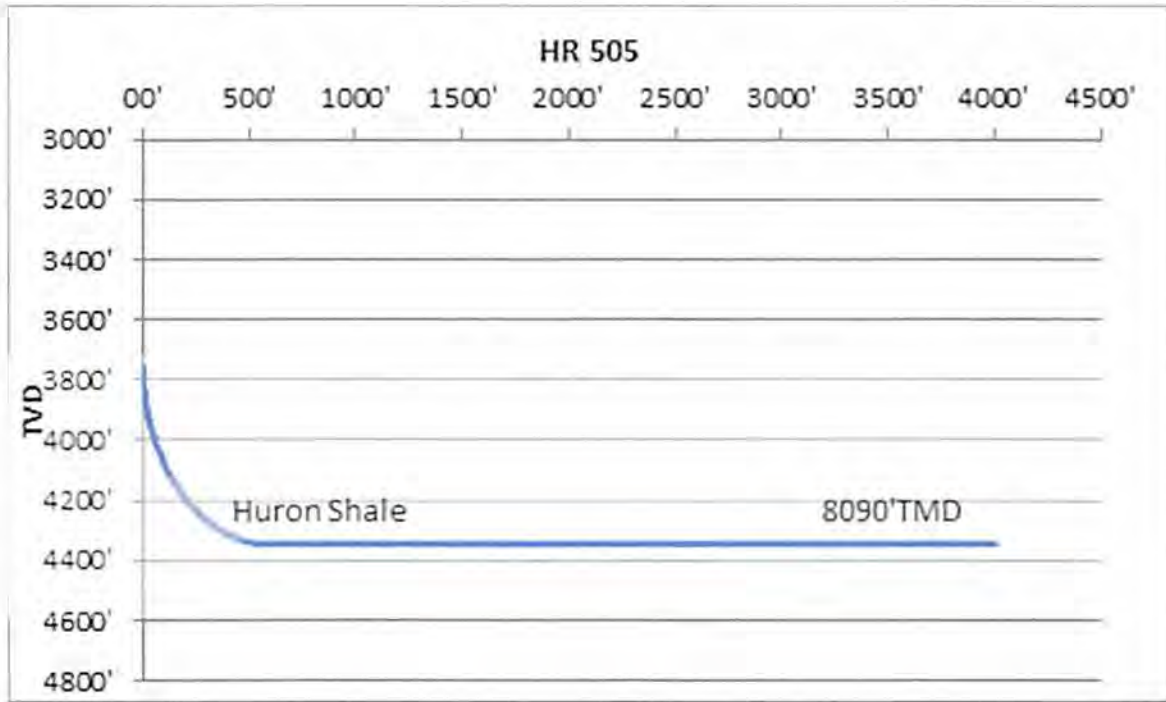
Sizes: 4.5" X 6 5/8" 10k diff Seal

Depths Set Place 16 stg open hole packer system from 4190'MD- 8090' (243' spacing per stg) , 17th packer at 2700' Dump

09/26/2014

NOTICE

WELLBORE GRAPH
HARD ROCK EXPLORATION WELL NO. HR-505



HARD ROCK EXPLORATION, INC.
1244 MARTINS BRANCH ROAD
CHARLESTON, WV 25312

8-14-14

Received

AUG 27 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

09/26/2014

WW-2A
(Rev. 6-14)

1). Date: August 12, 2014
2.) Operator's Well Number HR-505
State County Permit
3.) API Well No.: 47- 087

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

Received

4) Surface Owner(s) to be served:
(a) Name Anna E. Bates Flint ✓
Address 1649 Charleston Road ✓
Spencer, WV 25276
(b) Name Richard R. Perrin ✓
Address 126 Providence Ave SE
New Philadelphia, OH 44663
(c) Name Margaret Ellen Bates Platt
Address 513 Folley Run ✓
Reedv. WV 25270
6) Inspector Ed Gainer
Address PO Box 821
Spencer, WV 25276
Telephone 304-389-7582

5) (a) Coal Operator
Name None
Address _____
(b) Coal Owner(s) with Declaration
Name Anna E. Bates Flint ✓
Address 1649 Charleston Road ✓
Spencer, WV 25276
Name Richard R. Perrin ✓
Address Margaret Ellen Bates Platt ✓
[Addresses under 4) (a) and (b)]
(c) Coal Lessee with Declaration
Name None
Address _____

AUG 27 2014

Office of Oil and Gas
Dept. of Environmental Protection

TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:

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

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)
- 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: Monica L. Jones
Its: Executive Vice President
Address: 1244 Martins Branch Road
Charleston, WV 25312
Telephone: 304-984-9004
Email: monica@hardrockexploration.com

Subscribed and sworn before me this 14th day of August, 2014

Joan L. Beane Notary Public
My Commission Expires Sept. 6, 2022

Oil and Gas Privacy Notice

09/26/2014

SURFACE OWNER WAIVER

County Roane

Operator
Operator well number

Hard Rock Exploration, Inc.
HR-505

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 a 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

FOR EXECUTION BY A CORPORATION, ETC.

Anna E. (BATES) Flint Date 8/21/14
Signature

ANNA E. (BATES) FLINT
Print Name

Company Name
By
Its
Received
Date
AUG 27 2014

Signature Office of Oil and Gas Date
WV Dept. of Environmental Protection

SURFACE OWNER WAIVER

County Roane

Operator Hard Rock Exploration, Inc.

Operator well number HR-505

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 a 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

FOR EXECUTION BY A CORPORATION, ETC.

Robert Flint II
Signature

Date 8/21/14

Company Name
By
Its

ROBERT FLINT II

Print Name

Received

AUG 27 2014

Date

Office of Oil and Gas
WV Dept. of Environmental Protection
Signature Date

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Roane
Operator Hard Rock Exploration, Inc. Operator's Well Number HR-505

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 _____ / 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

FOR EXECUTION BY A CORPORATION, ETC.

Anna E. (Bates) Flint Date 8/21/14
Signature

Company Name _____
By _____
Its _____ Date _____

Signature _____ Date _____

Received

AUG 27 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

20471H

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Roane
Operator Hard Rock Exploration, Inc. Operator's Well Number HR-505

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 _____ / 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

FOR EXECUTION BY A CORPORATION, ETC.

Robert Flint II Date 8/21/14
Signature

Company Name _____
By _____
Its _____ Date _____

Signature _____ Date _____

Received

AUG 27 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

09/26/2014

8764741H

Postal Service™
CERTIFIED MAIL™ RECEIPT
(Certified Mail Only; No Insurance Coverage Provided)
 For more information visit our website at www.usps.com

Postage	\$ 1.92
Certified Fee	3.30
Receipt Fee (if Required)	2.70
Delivery Fee (if Required)	
Age & Fees	\$ 7.92



Richard R Perrin
 126 Providence Ave SE
 New Philadelphia OH 44663
 01 August 2006 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Richard R. Perrin
 126 Providence Ave. SE
 New Philadelphia, OH 44663

2. Article Number
 (Transfer from service label) 7011 2000 0001 7717 5678

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 X *Richard Perrin* Agent Addressee

B. Received by (Printed Name)
 C. Date of Delivery
 AUG 19 2014

D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-154

Postal Service™
CERTIFIED MAIL™ RECEIPT
(Certified Mail Only; No Insurance Coverage Provided)
 For more information visit our website at www.usps.com

Postage	\$ 1.92
Certified Fee	3.30
Receipt Fee (if Required)	2.70
Delivery Fee (if Required)	
Age & Fees	\$ 7.92



Margaret Ellen Bates Platt
 513 Folley Run
 Reedy, WV 25270
 01 August 2006 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Margaret Ellen Bates Platt
 513 Folley Run
 Reedy, WV 25270

2. Article Number
 (Transfer from service label) 7011 2000 0001 7717 5685

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 X *Margaret Ellen Bates Platt* Agent Addressee

B. Received by (Printed Name)
 C. Date of Delivery
 Margaret Platt 8-16-14

D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-154

Postal Service™
CERTIFIED MAIL™ RECEIPT
(Certified Mail Only; No Insurance Coverage Provided)
 For more information visit our website at www.usps.com

Postage	\$ 1.82
Certified Fee	3.30
Receipt Fee (if Required)	2.70
Delivery Fee (if Required)	
Age & Fees	\$ 7.92



Anna E. Bates Flint
 1649 Charleston Rd
 Spencer WV 25276
 01 August 2006 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Anna E. Bates Flint
 1649 Charleston Road
 Spencer, WV 25276

2. Article Number
 (Transfer from service label) 7011 2000 0001 7717 5692

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 X *Robert Flint* Agent Addressee

B. Received by (Printed Name)
 C. Date of Delivery
 Robert Flint 8-16-14

D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-154

09/26/2014

**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
Richard R. Perrin	Reserve Oil and Gas, Inc.	% of 1/8	247/692
Margaret Ellen Bates Platt	Reserve Oil and Gas, Inc.	% of 1/8	247/699
Robert II and Anna E Bates Flint	Reserve Oil and Gas, Inc.	% of 1/8	247/702
Reserve Oil and Gas, Inc.	J & M Resources	Assignment	504/459
J & M Resources	Hard Rock Exploration, Inc.	Assignment	252/85

**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

Received

AUG 27 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

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: *Moni Laxx*
 Executive Vice President

87047411

WW-2B1
(5-12)

Well No. HR-505

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.

SEE ATTACHED

Received

AUG 27 2014

**WATER NOTICE
FOR
HARD ROCK EXPLORATION, INC.
WELL HR-505A**

Anna E. Bates Flint, et. al.
1649 Charleston Rd.
Spencer, WV 25276

Katherine Platt Short
1422 Peniel Rd.
Gay, WV 25244

James Slingerland
141 Folly Run
Reedy, WV 25270

Margaret Bates Platt
513 Folly Run
Reedy, WV 25270

Patrick McFadden
PO Box 801
Clendenin, WV 25045

Dorothy Townsend
278 Folly Run
Reedy, WV 25270

Vanderbuilt Mortgage and Finance
Attn: Mark Lazenby
PO Box 5129
Princeton, WV 24740

*MUST TEST ONE OF THE
ADJACENT WELLS BEFORE SHUTTING
IF IT IS WITHIN 2000' OF
THE WELLBORE.
JMM*

Received

AUG 27 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

True Line Surveying, Inc.
8/11/14

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) Folley Run of Reedy Creek Quadrangle Reedy, WV 7.5'

Elevation 712' County _____ District Reedy

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

Will a pit be used for drill cuttings? Yes X No _____

If so, please describe anticipated pit waste: Drill Cuttings

Will a synthetic liner be used in the pit? Yes X No _____ If so, what ml.? -10 or greater 20 MIL

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number UIC2D0190460, 3416729685)
- Reuse (at API Number 110096, 8704729, 3503009, 8704712, 3503011, 3503008, 3503005, ... - Well will be noted in DMR)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Will closed loop system be used? No

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

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

Additives to be used in drilling medium? Soap, KCl, or Clay Stay

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

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

-Landfill or offsite name/permit number? _____

Received

AUG 27 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

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 Monica Francisco

Company Official (Typed Name) Monica Francisco

Company Official Title Executive Vice President

Subscribed and sworn before me this 14th day of August, 2014

Joan L. Beane Notary Public

My commission expires Sept. 6, 2022



09/26/2014

Form WW-9

Operator's Well No. HR-505

Proposed Revegetation Treatment: Acres Disturbed 0.52 Prevegetation pH 5.5

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

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

Seed Mixtures

Area I		Area II	
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.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: 

Comments: Sediment control in place at all times

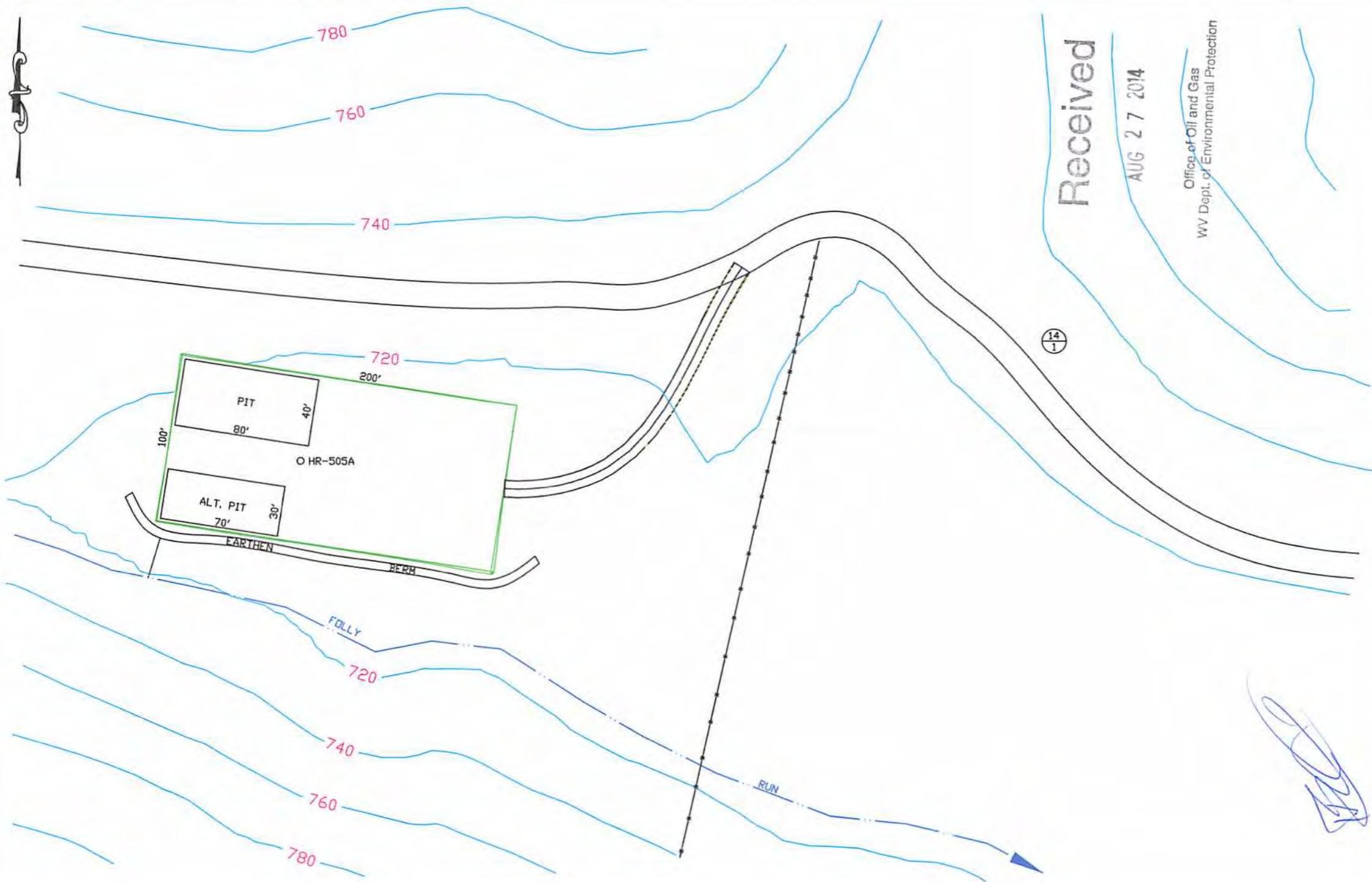
Received
AUG 27 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

Title: Inspector Date: 8/20/14

Field Reviewed? Yes No

8704741H



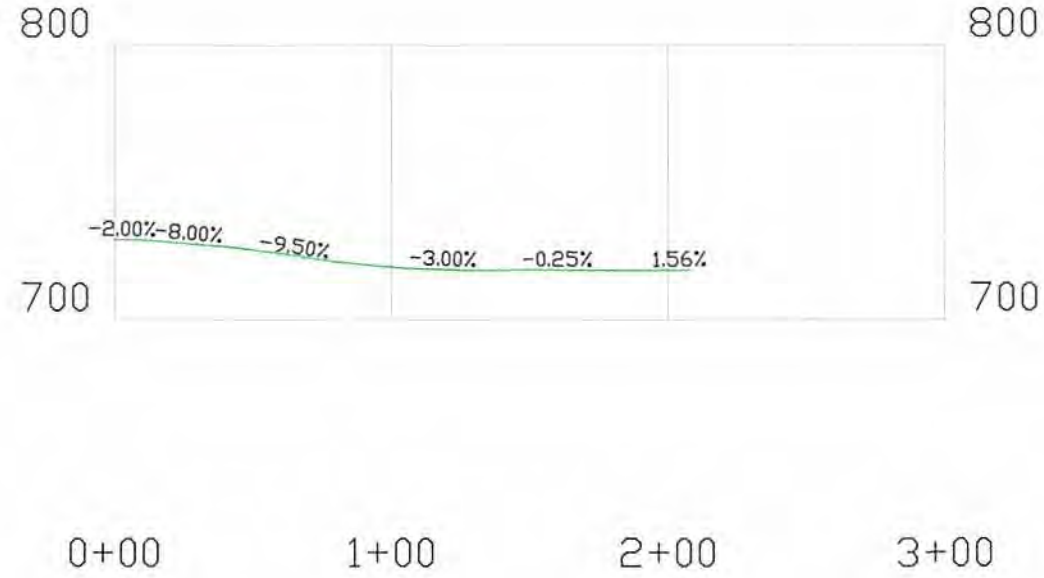
Received

AUG 27 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

DISTURBED AREAS		LEGEND		SITE PLAN	
WELL PAD CONSTRUCTION	0.47 AC.	STREAM	—	HARD ROCK EXPLORATION PROPOSED WELL # HR-505A	
NEW ACCESS ROAD CONSTRUCTION	0.05 AC.	PROPERTY LINE	—	REEDY DISTRICT, ROANE COUNTY REEDY QUAD, WV 7.5'	
ADDITIONAL CLEARING		SLOPE AREA		JULY 28, 2014	TRUE LINE SURVEYING 6211 FAIRVIEW DR. HUNTINGTON, WV 25705
TOTAL DISTURBED AREA	0.52 AC.	WETLAND		PAGE 1 OF 1	

H11p24028



Received

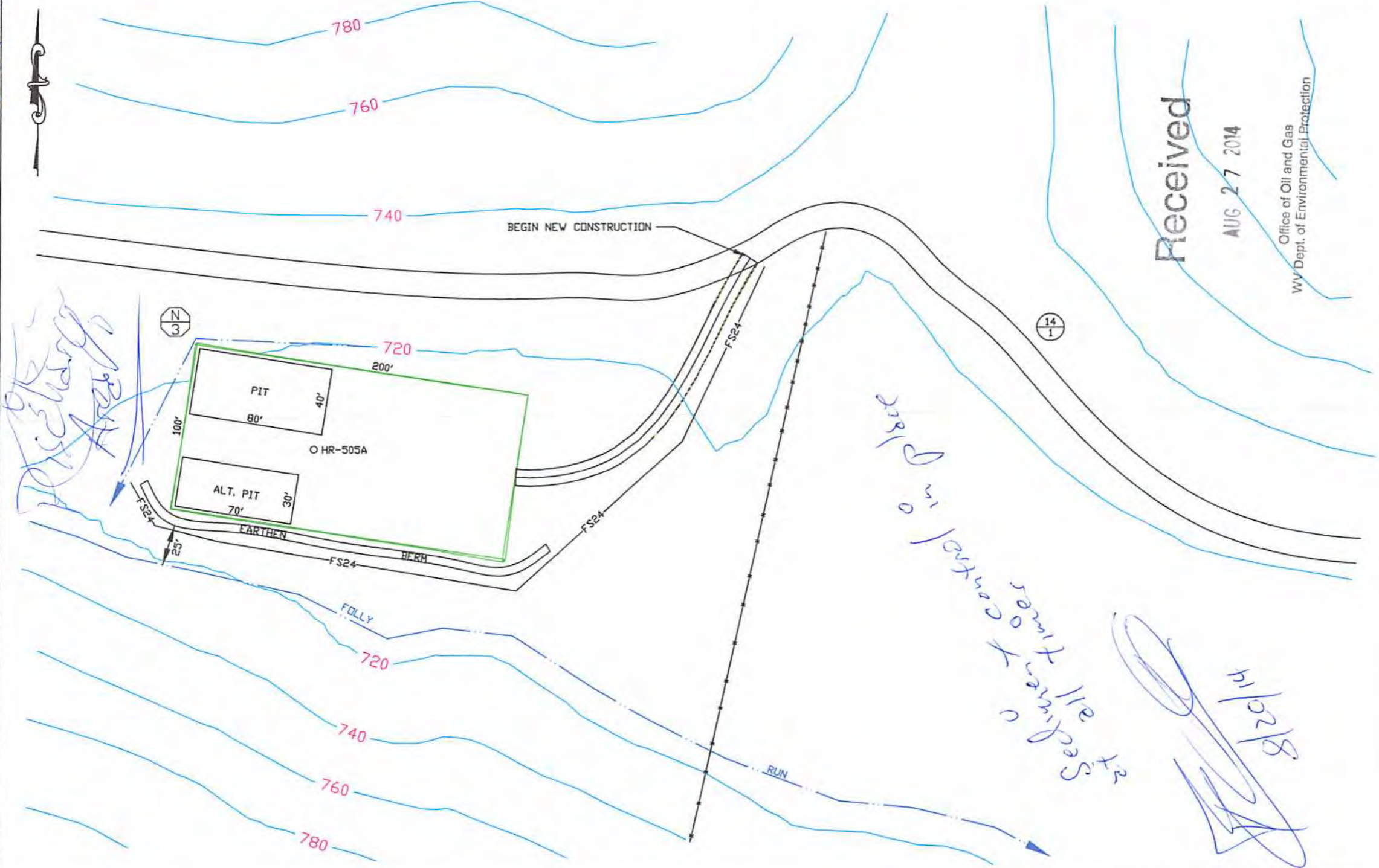
AUG 27 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

ROAD PROFILE
HARD ROCK EXPLORATION PROPOSED WELL # HR-505A REEDY DISTRICT, ROANE COUNTY REEDY QUAD, WV 7.5'
JULY 28, 2014
TRUE LINE SURVEYING 6211 FAIRVIEW DR. HUNTINGTON, WV 25705
PAGE <u>1</u> OF <u>1</u>



8704741 H



Handwritten: Excavation Area

Handwritten: 2' Section Control in 0 yard

Handwritten signature and date: 8/20/14

Received

AUG 27 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

LEGEND

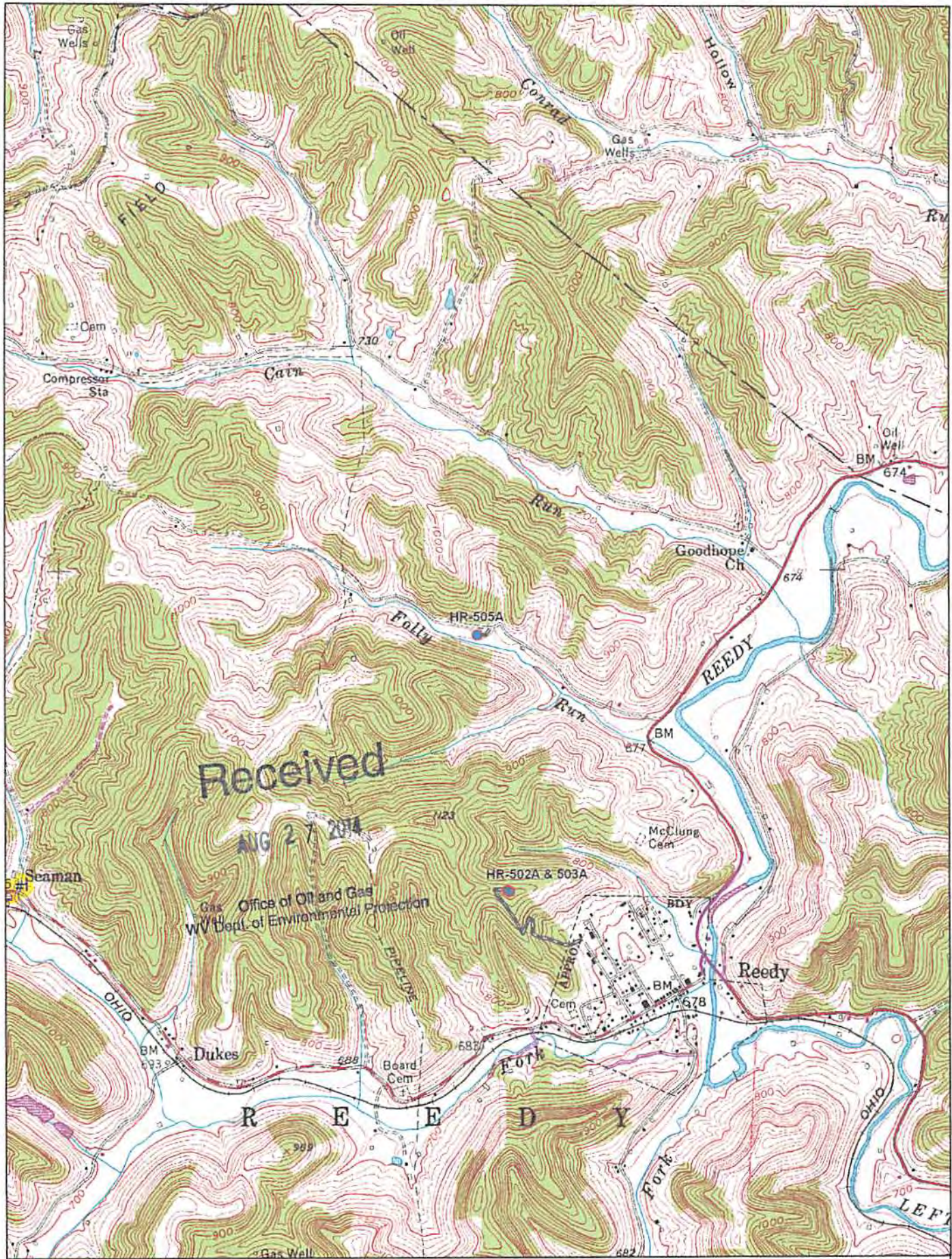
	PROVIDE FLEXTERRA HIGH PERFORMANCE FLEXYABLE GROWTH MEDIUM (GHP-FLO) ON CUT AND FILL SLOPES
	LEVEL SPREADER
	DIVERSION DITCH
	BERM OUTLET

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

EROSION AND SEDIMENT CONTROL PLAN

HARD ROCK EXPLORATION PROPOSED WELL # HR-505A REEDY DISTRICT, ROANE COUNTY REEDY QUAD, WV 7.5'	
JULY 28, 2014	
TRUE LINE SURVEYING 6211 FAIRVIEW DR. HUNTINGTON, WV 25705	
PAGE 1	OF 1





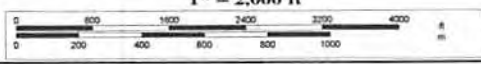
Received
AUG 27 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

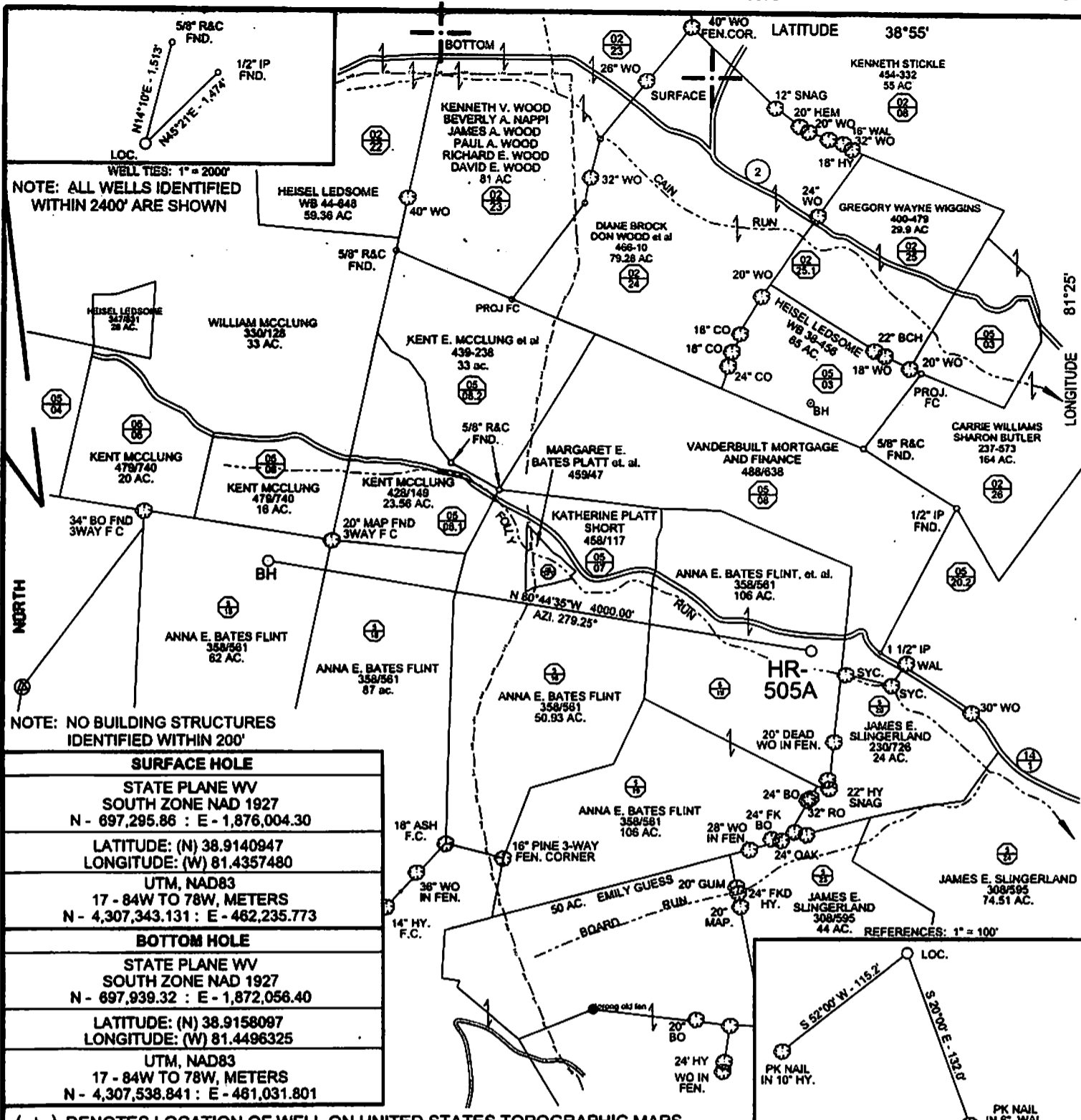


© 2001 DeLorme, XMap®. Data copyright of content owner.
Zoom Level: 14-0 Datum: NAD27

Scale 1 : 24,000
1" = 2,000 ft



09/26/2014



NOTE: ALL WELLS IDENTIFIED WITHIN 2400' ARE SHOWN

NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

SURFACE HOLE	
STATE PLANE WV SOUTH ZONE NAD 1927	
N - 697,295.86 : E - 1,876,004.30	
LATITUDE: (N) 38.9140947	
LONGITUDE: (W) 81.4357480	
UTM, NAD83	
17 - 84W TO 78W, METERS	
N - 4,307,343.131 : E - 462,235.773	
BOTTOM HOLE	
STATE PLANE WV SOUTH ZONE NAD 1927	
N - 697,939.32 : E - 1,872,056.40	
LATITUDE: (N) 38.9158097	
LONGITUDE: (W) 81.4496325	
UTM, NAD83	
17 - 84W TO 78W, METERS	
N - 4,307,538.841 : E - 461,031.801	

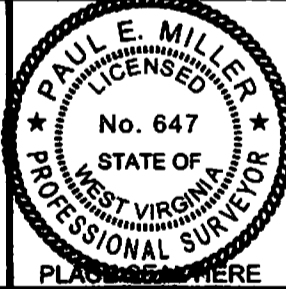
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO.	HR-505A
DRAWING NO.	HR-505A
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



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

DATE AUGUST 8, 20 2014
OPERATOR'S WELL NO. HR-505A
API WELL NO. 47 087 04741 H

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

LOCATION: ELEVATION 712' WATER SHED FOLLEY RUN OF REEDY CREEK
DISTRICT REEDY COUNTY ROANE
QUADRANGLE REEDY, WV 7.5'

SURFACE OWNER ANNA E. BATES FLINT, et. al. ACREAGE 106
OIL & GAS ROYALTY OWNER Flint, Paccin, Platt LEASE ACREAGE 308
LEASE NO. _____

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 LOWER HURON ESTIMATED DEPTH 3090' MD; 4350' TVD

WELL OPERATOR HARD ROCK EXPLORATION, INC. DESIGNATED AGENT JAMES L. STEPHENS
ADDRESS 1244 MARTINS BR. RD., CHARLESTON, WV 26312 ADDRESS SAME

FORM WW-6

COUNTY NAME
PERMIT

09/26/2014

Hard Rock Consulting, LLC



Hard Rock Land Services, LLC

August 14, 2014

Mr. Gene Smith
 West Virginia Department of Environmental Protection
 601 57th Street SE
 Charleston, West Virginia 25304

Received

RE: Permit for well HR-505

AUG 27 2014

Dear Gene:

Office of Oil and Gas
 WV Dept. of Environmental Protection

I am writing regarding fresh water casing protection for the above referenced well. Hard Rock Exploration respectfully request this permit be issued allowing a deeper string of fresh water protection.

The new emergency rules act as a blanket policy and does not take several factors into consideration. The primary issue is that a lot of wells in the state of West Virginia are drilled on air, and the majority of operators with air drilling operations work diligently to reduce the amount of water in their operations. The new guidelines appear to be focused on fluid drilling and do not take into account wells being drilled on air. Our request is based on what we consider to be better engineering practices for air drilling operations.

The proper placement of the casing shoe must be considered; Hard Rock wants the ability to place the casing shoe in a rock, which has the mechanical integrity to ensure a proper seal at the casing shoe. If we follow the "new guidelines" most of the wells in our operational area would have the casing shoe placed in a red rock section and we would run casing 100 feet below the Pittsburgh Sand. Red rock has been proven to be a formation that is not stable with drilling operations; the rock is sensitive to time and the fluids that are produced from the intermediate hole. When the red rock is not covered we have seen sloughing and wash-outs during drilling operations.

Our proposed fresh water protection string set just above elevation does three things to ensure protection of fresh water and the minimization of pit fluids:

- (1) It limits the time exposure on the fresh water aquifer and adds only a few hours of air drilling to the well.
- (2) With the minimal time exposed and a casing shoe located in a mechanically sound rock it will ensure the cement will seal and form a good compressive barrier to future drilling operations.

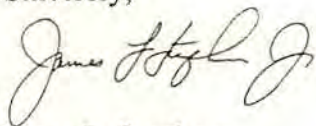
CK# 000019
 650⁰⁰

- (3) The last item, which is overlooked by the new standards, is pit volumes. The proposed fresh water casing placement will allow the majority of the 8 ¾ hole to be drilled on air. Using this method will permit Hard Rock to reduce fluids for drilling and decrease pit water volumes.

We also request that a cement record log from a cement service company be filed with our WR-35. We think that failure of either the cement quality or circulation should be a good measure of when to require additional logging and most fresh water protection strings are witnessed by the State Oil and Gas inspector for verification of a good cement job. Running a bond log under pressure should only be done if a known problem exists; the pressuring up of the casing string is detrimental to the newly established cement and could cause a micro-annulus problem. In addition, bond logs ran at the shallow depths with large internal diameter casings are very inaccurate if not ran under pressure. I think that the cement record log and the circulation of cement at surface will satisfy the "new guidelines".

I hope this request is considered and permits are issued in the very near future.

Sincerely,



James L. Stephens
President

Cc: Monica Stephens
Ron Crites

Received

AUG 27 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

09/26/2014