



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

July 30, 2014

WELL WORK PERMIT
Horizontal Well

This permit, API Well Number: 47-3503022, 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-466
Farm Name: HARRIS, ALAN L. & KARLA L.
API Well Number: 47-3503022
Permit Type: Horizontal Well
Date Issued: 07/30/2014

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 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 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. This permit is being conditioned to address the possibility of flooding in the area of this well. Any tanks stored on this location must be securely anchored in cement to prevent the loss of tanks should a flood occur. In addition, cages must be placed around the well head to prevent debris from damaging the well head.

WW - 2B
(Rev. 8/10)

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 Jackson Washington Gay, WV 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: HR-466 3) Elevation: 635' ✓

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

*CK 15484
65000*

5) Proposed Target Formation(s): Lower Huron Proposed Target Depth: 4200'
6) Proposed Total Depth: 7640' Feet Formation at Proposed Total Depth: Lower Huron
7) Approximate fresh water strata depths: 380'
8) Approximate salt water depths: 1595'

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

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

11) Does land contain coal seams tributary to active mine? No

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-3600', Land curve-4540'MD/ 4200'TVD , 3700'VS, 7640'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) CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor	13 3/8"	LS	37#	30'	30'	NA
Fresh Water	9 5/8"	LS	26#	570'	570'	CTS
Coal						
Intermediate	7"	LS	19#	2150'	2150'	CTS
Production	4 1/2"	N-80	11.6#	7640'	7640'	130cuft
Tubing						
Liners						

*Jenice
7/13/2014*

Packers: Kind: Hydraulic set open hole packers
Sizes: 4.5" X 6 5/8" 10k diff Seal
Depths Set Place 15 stg open hole packer system from 4060'MD- 7640' (238' spacing per stg) , 16th packer at 2450' Dump 130cuft cmi

08/01/2014

WW-2A
(Rev. 6-14)

1.) Date: June 30, 2014
2.) Operator's Well Number HR-466
State County Permit
3.) API Well No.: 47- 035 - 030224

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 Alan L. & Karla Harris ✓
Address 3861 Fisher Ridge Road
Kenna, WV 25248 W
(b) Name _____
Address _____
(c) Name _____
Address _____
5) (a) Coal Operator
Name None
Address _____
(b) Coal Owner(s) with Declaration
Name Alan L. & Karla Harris W
Address 3861 Fisher Ridge Road
Kenna, WV 25248
(c) Coal Lessee with Declaration
Name None
Address _____
6) Inspector Jamie Stevens
Address HC 62 Box 1C 105 Kirtuck Rd.
Kenna, WV 25248
Telephone (304)206-7775

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

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: Monica [Signature]
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 30th day of June

Joan L. Beane
Notary Public

RECEIVED
2014
Office of Oil and Gas

My Commission Expires Sept. 6, 2022

JUL 14 2014

Oil and Gas Privacy Notice

SURFACE OWNER WAIVER

County Jackson

Operator Hard Rock Exploration, Inc.

Operator well number HR-466

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.


Signature

Date 7/9/14

Company Name
By
Its

Alan L. Harris

Print Name

RECEIVED
Office of Oil and Gas

JUL 14 2014

Date

WV Department of
Signature Environmental Protection Date

08/01/2014

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Jackson
Operator Hard Rock Exploration, Inc.

Operator's Well Number HR-466

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.

 Date 7/9/14
Signature

Company Name _____
By _____
Its _____ Date _____

Signature _____ Date _____

RECEIVED
Office of Oil and Gas

JUL 14 2014

WV Department of
Environmental Protection

SURFACE OWNER WAIVER

County Jackson

Operator Hard Rock Exploration, Inc.

Operator well number HR-466

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:

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

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- 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.

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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.

Karla Harris
Signature

Date 7-8-14

Company Name
By
Its

RECEIVED
Office of Oil and Gas
Date

Karla Harris
Print Name

JUL 14 2014
Date

Signature WV Department of Environmental Protection Date

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Jackson
Operator Hard Rock Exploration, Inc. Operator's Well Number HR-466

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.

Karla Harris Date 7-8-14
Signature

Company Name _____
By _____ Date _____
Its _____
Signature _____ Date _____

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Office of Oil and Gas
JUL 14 2014
WV Department of
Environmental Protection

WW-2A1
(Rev. 1/11)

Operator's Well Number HR-466

**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
Freda Wilson	Hard Rock Exploration, Inc.	% of 1/8	268/415
Oscar and Cheryl Harris	Hard Rock Exploration, Inc.	% of 1/8	268/310
John Wolfe, AIF for Virginia Wolfe	Hard Rock Exploration, Inc.	% of 1/8	268/595
Emily Ann Starcher Pace	Hard Rock Land Services, LLC	% of 1/8	244/858
Roderick L. Parsons	Hard Rock Land Services, LLC	% of 1/8	249/492
Hard Rock Land Services, LLC	Hard Rock Exploration, Inc.	Misc. Assignment	466

**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:
By: Its:

Hard Rock Exploration, Inc.

Executive Vice President

WV Department of
Environmental Protection

JUL 14 2014

08/01/2014

WW-2B1
(5-12)

Well No. HR-466

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.

RECEIVED
Office of Oil and Gas
Testing Dept
11/3/14
WV Department of Environmental Protection

NOTICE

WATER TESTING
HARD ROCK EXPLORATION WELL NO. HR-466AWATER SOURCE(S) IDENTIFIED WITHIN 2000' OF THE ABOVE PROPOSED WELL
SITE.Noble and Nancy Davis
P O Box 23
Ripley WV 25271Cindy Knopp
7802 Spencer Rd.
Leroy WV 25252Oscar Harris
7422 Spencer Rd.
Leroy WV 25252
304 372-3957Alan L. & Karla L. Harris
3861 Fisher Ridge Road
Kenna WV 25248
304 531-1297Mike Ross, Inc.
P. O. Box 219
Coalton WV 26257Craig E. & Lorna M. Canterbury
527 Frozen Camp Creek
Gay WV 25244MUST TEST
AT LEAST ONE (1).

JMM

TRUE LINE SURVEYING, INC.
6211 FAIRVIEW DRIVE
HUNTINGTON, WV 25705

06-20-14

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Office of Oil and Gas

JUL 14 2014

WV Department of
Environmental Protection

08/01/2014

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) Little Mill Creek Quadrangle Gay, WV 7.5'

Elevation 629' County _____ District Washington

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~~ 20mil,

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number UIC2D0190460, 3416729685)
- Reuse (at API Number 8704696, 8704701, 8704698, 8704703, 8704669, 3502970, 3502987, 8704700, ... - 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? _____

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

RECEIVED
Office of Oil and Gas
JUL 14 2014
M. Commissioner Exp. 9 Sept. 6, 2014
STATE OF WEST VIRGINIA
NOTARY PUBLIC OFFICIAL SEAL
JOAN L. BEANE
State of West Virginia
Commission Expires Sept. 6, 2014
REGISTRATION NO. 2012

Subscribed and sworn before me this 30th day of June, 2014

Joan L. Beane Notary Public

My commission expires Sept. 6, 2022

08/04/2014

Form WW-9

Operator's Well No. HR-466

Proposed Revegetation Treatment: Acres Disturbed 0.78 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: *Jamie Stevens*

Comments: _____

Title: *Inspector*

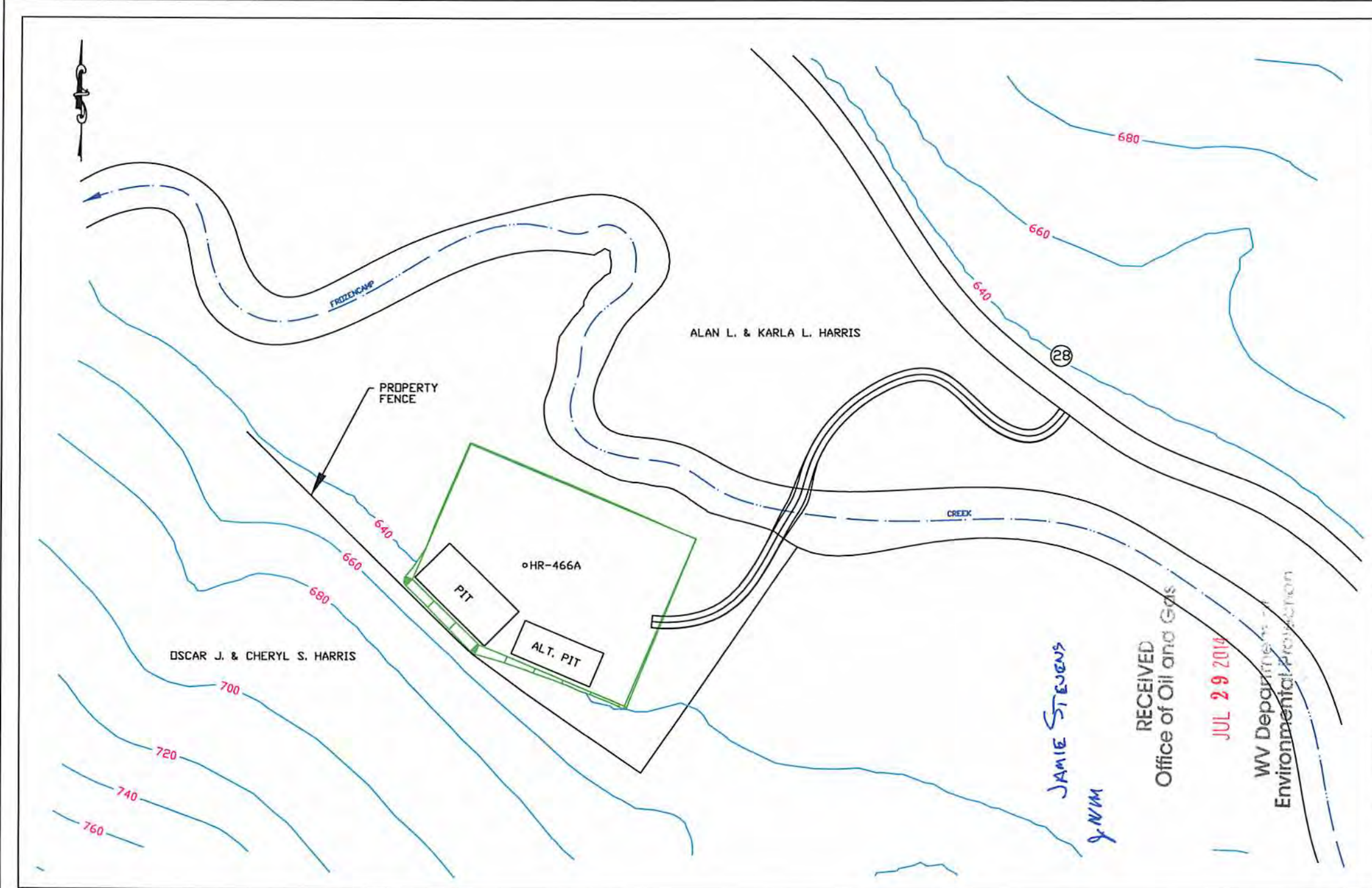
Date: *7/3/2014*

Field Reviewed? Yes No

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Office of Oil and Gas
JUL 14 2014
WV Department of
Environmental Protection
08/01/2014

RECEIVED

3503022H



DISTURBED AREAS		LEGEND		SITE PLAN	
WELL PAD CONSTRUCTION	0.67 AC.	STREAM	—	HARD ROCK EXPLORATION	PROPOSED WELL # HR-466A WASHINGTON DISTRICT, JACKSON COUNTY GAY QUAD, WV 7.5'
NEW ACCESS ROAD CONSTRUCTION	0.11 AC.	PROPERTY LINE	—	TRUE LINE SURVEYING	
ADDITIONAL CLEARING		SLOPE AREA	[Yellow hatched box]	JULY 29, 2014	
TOTAL DISTURBED AREA	0.78 AC	WETLAND	[Green hatched box]	6211 FAIRVIEW DR. HUNTINGTON, WV 25705	
		BUFFER AREA	[White box with border]	PAGE 1 OF 1	

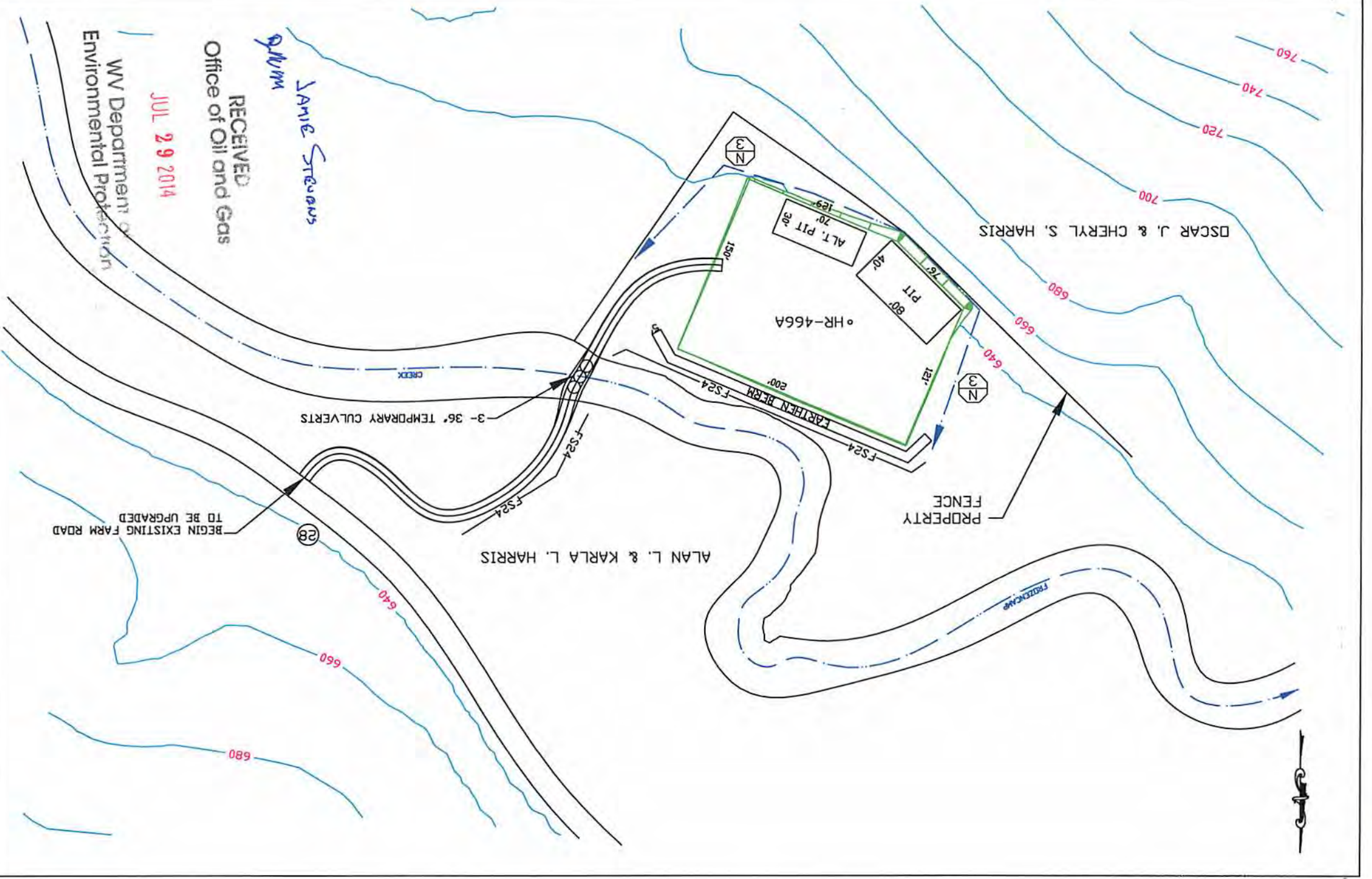
JAMIE STEVENS
JNM

RECEIVED
Office of Oil and Gas

JUL 29 2014

WV Department of Environmental Protection

3503022H

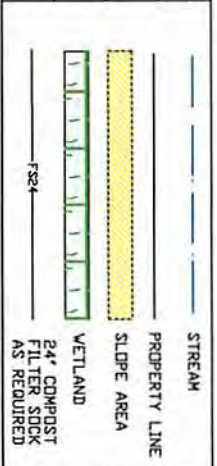


plum
JANIE STEWART
 RECEIVED
 Office of Oil and Gas
 JUL 29 2014

WV Department of
 Environmental Protection

LEGEND

- 1 PROVIDE FLEXITERA HIGH PERFORMANCE FLEXIBLE GROWTH MEDIUM (HP-FLM) ON CUT AND FILL SLOPES
- 2 LEVEL SPREADER
- 3 DIVERSION DITCH
- 4 BERM OUTLET



EROSION AND SEDIMENT CONTROL PLAN

HARD ROCK EXPLORATION
 PROPOSED WELL # HR-466AA
 WASHINGTON DISTRICT, JACKSON COUNTY
 GAY QUAD, WV 75'

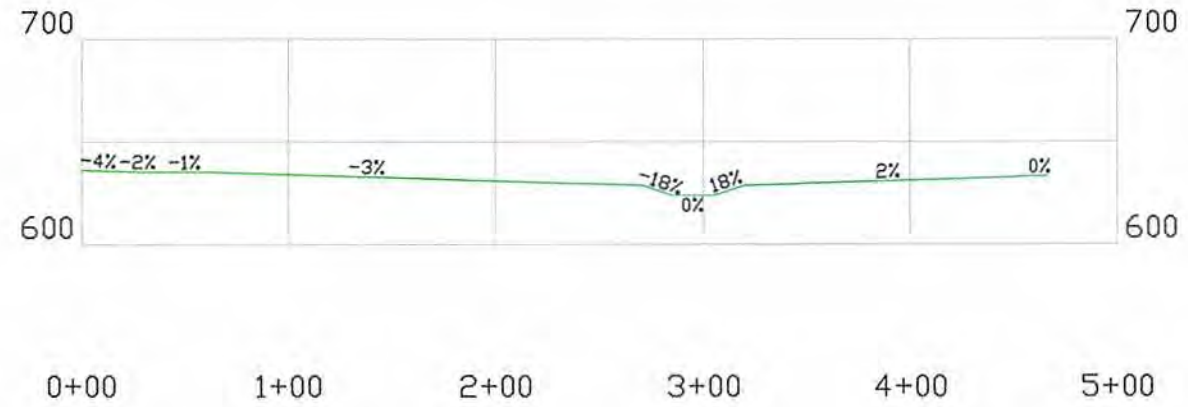
JULY 29, 2014

TRUE LINE SURVEYING
 6211 FAIRVIEW DR
 HUNTINGTON, WV 25705

PAGE 1 OF 1



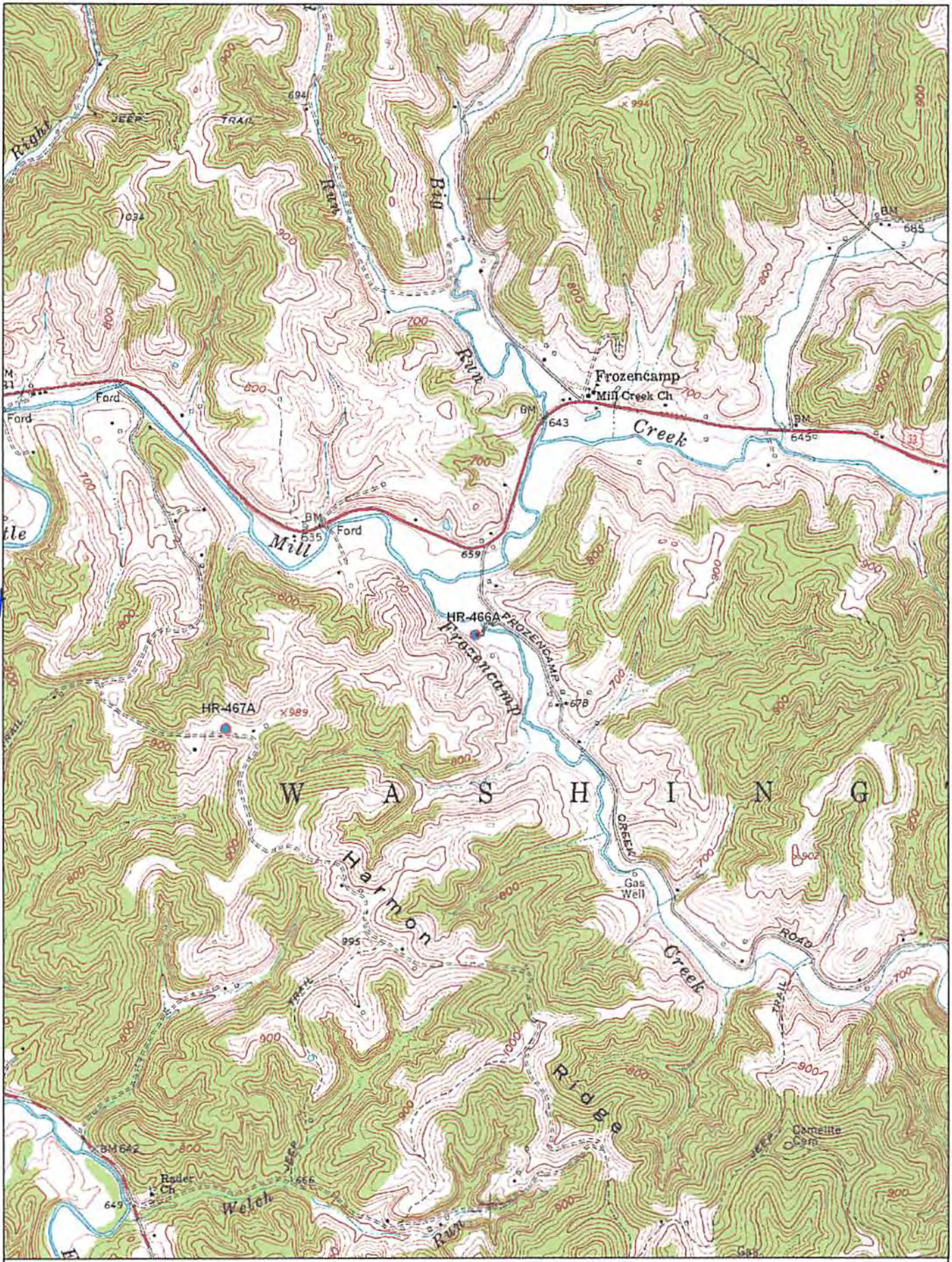
HR203053



Handwritten signature and date: 7/3/2014

ROAD PROFILE
HARD ROCK EXPLORATION PROPOSED WELL # HR-466A
WASHINGTON DISTRICT, JACKSON COUNTY GAY QUAD, WV 7.5'
JUNE 20, 2014
TRUE LINE SURVEYING 6211 FAIRVIEW DR. HUNTINGTON, WV 25705
PAGE <u>1</u> OF <u>1</u>





7/3/2014
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 Zoom Level: 14-0 Datum: NAD27

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



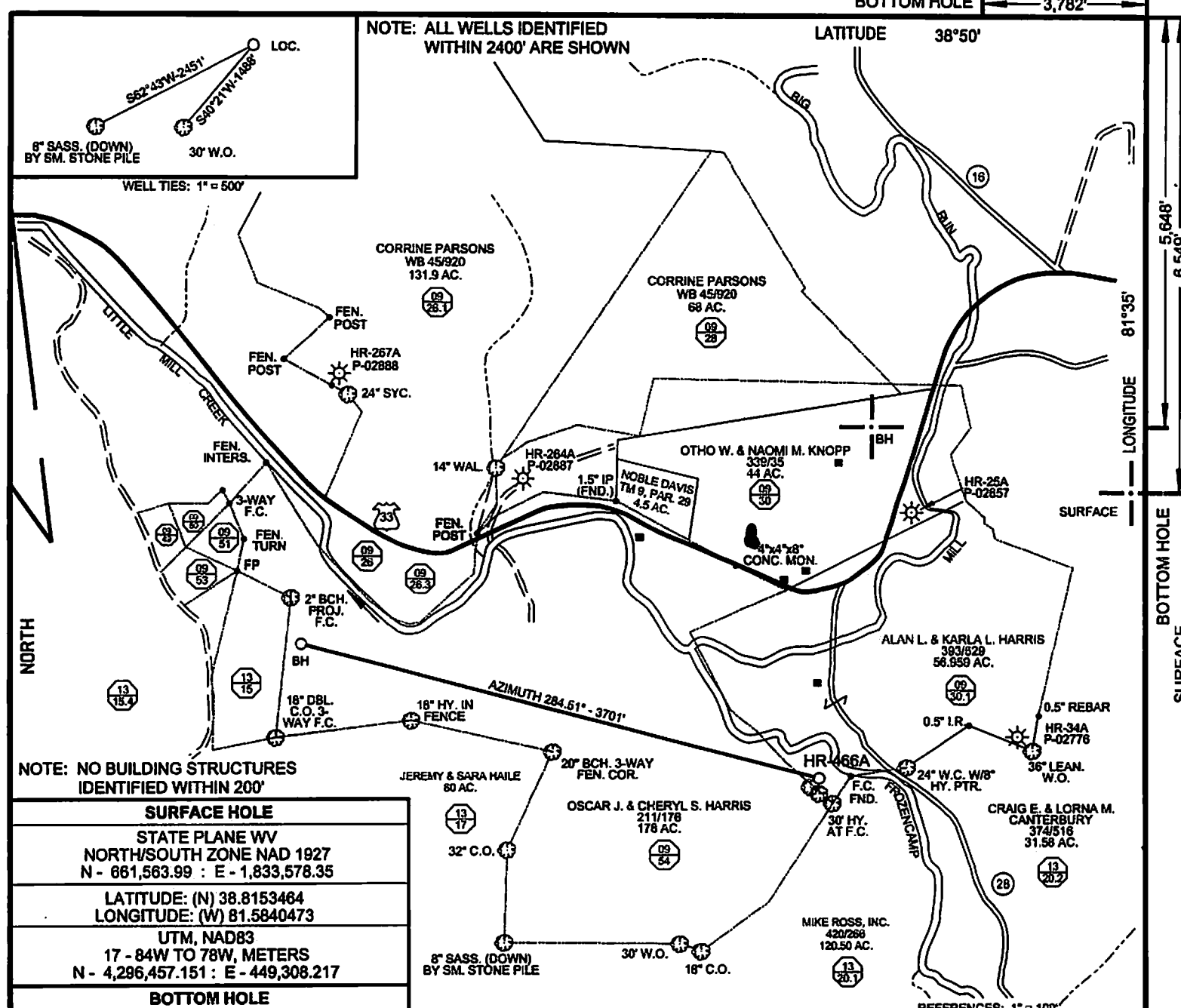
08/01/2014

SURFACE 193' 3,782'

NOTE: ALL WELLS IDENTIFIED WITHIN 2400' ARE SHOWN

LATITUDE 38°50'

LONGITUDE 81°35'



NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

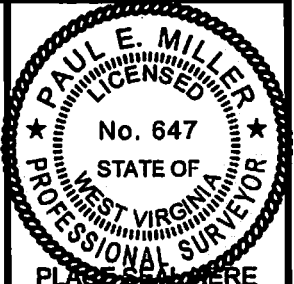
SURFACE HOLE	
STATE PLANE WV NORTH/SOUTH ZONE NAD 1927 N - 661,563.99 : E - 1,833,578.35	
LATITUDE: (N) 38.8153464 LONGITUDE: (W) 81.5840473	
UTM, NAD83 17 - 84W TO 78W, METERS N - 4,296,457.151 : E - 449,308.217	
BOTTOM HOLE	
STATE PLANE WV NORTH/SOUTH ZONE NAD 1927 N - 662,491.09 : E - 1,829,994.93	
LATITUDE: (N) 38.8178293 LONGITUDE: (W) 81.5966437	
UTM, NAD83 17 - 84W TO 78W, METERS N - 4,286,739.711 : E - 448,216.395	

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

FILE NO. HR-466A.DGN
 DRAWING NO. HR-466A REV.
 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.I.S. 647



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

DATE REVISED MAY 20, 20 14
 OPERATOR'S WELL NO. HR-466A
 API WELL NO. _____

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

LOCATION: ELEVATION 835' WATER SHED FROZENCAMP CREEK OF LITTLE MILL CREEK
 DISTRICT WASHINGTON COUNTY JACKSON
 QUADRANGLE GAY, WV 7.5'

SURFACE OWNER ALAN L. & KARLA L. HARRIS ACREAGE 59.959
 OIL & GAS ROYALTY OWNER Alan L. Harris, Karla L. Harris, Paul Parsons LEASE ACREAGE 7.35 LEASE NO. _____

PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
 TARGET FORMATION LOWER HURON ESTIMATED DEPTH 7640' MD; 4200' TVD
 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

08/01/2014