



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

October 15, 2014

WELL WORK PERMIT

Horizontal Well

This permit, API Well Number: 47-8704744, 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-484A
Farm Name: THOMPSON, DONALD
API Well Number: 47-8704744
Permit Type: Horizontal Well
Date Issued: 10/15/2014

Promoting a healthy environment.

10/17/2014

PERMIT CONDITIONS

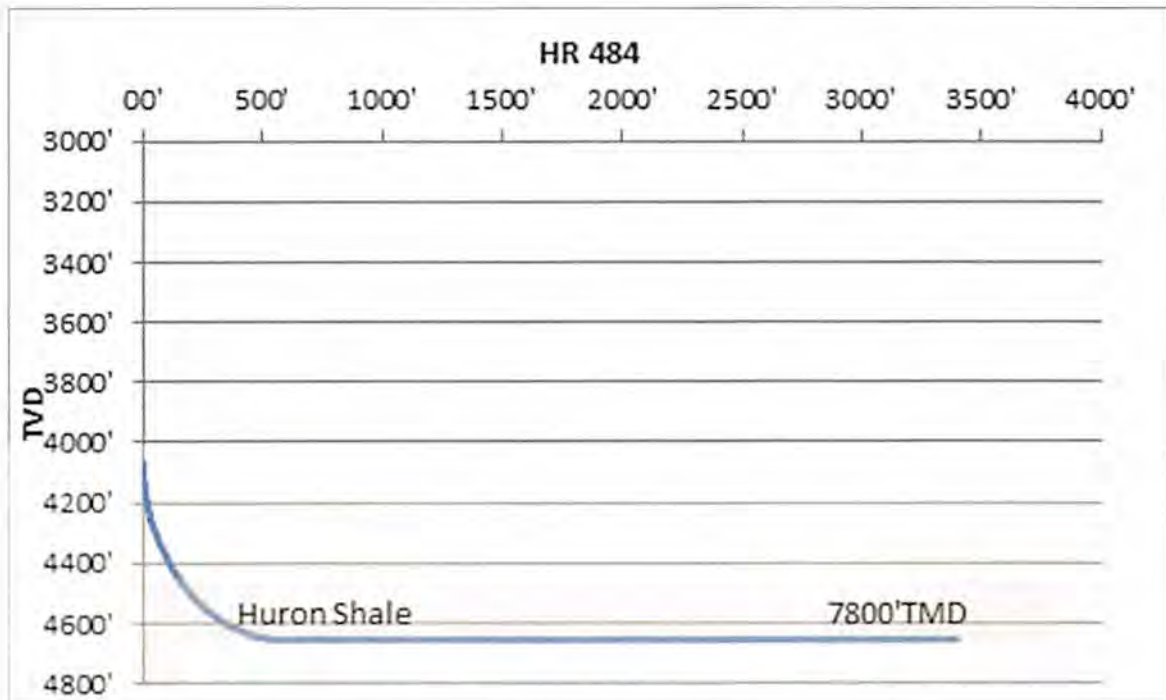
West Virginia Code §22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

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.

NOTICE

WELLBORE GRAPH
HARD ROCK EXPLORATION WELL NO. HR-484



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

8-20-14

Received

SEP 17 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

10/17/2014

WW-2A
(Rev. 6-14)

1.) Date: August 20, 2014
2.) Operator's Well Number HR-484
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

4) Surface Owner(s) to be served:
(a) Name Donald Thompson ^W
Address 5508 Parkersburg Road
Reedy WV 25270
(b) Name _____
Address _____
(c) Name _____
Address _____
5) (a) Coal Operator
Name None
Address _____
(b) Coal Owner(s) with Declaration
Name Donald Thompson ^W
Address 5508 Parkersburg Road
Reedy WV 25270
Name _____
Address _____
(c) Coal Lessee with Declaration
Name None
Address _____
6) Inspector Ed Gainer
Address PO Box 821
Spencer, WV 25276
Telephone 304-389-7582

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

Received
SEP 17 2014

Subscribed and sworn before me this 20th day of August, 2014

Joan L. Beane
Sept. 6, 2022

Office of Oil and Gas
Notary Public WV Dept. of Environmental Protection

My Commission Expires
Oil and Gas Privacy Notice

SURFACE OWNER WAIVER

County Roane

Operator Hard Rock Exploration, Inc.
Operator well number HR-484

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 dequated 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

Donald R. Thompson
Signature

Date Sept 16²¹

Company Name
By
Its

DONALD R THOMPSON

Print Name

FOR EXECUTION BY A CORPORATION, ETC.

Received
Date

SEP 17 2014

Signature Date

Office of Oil and Gas
WV Dept. of Environmental Protection

10/17/2014

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Roane
Operator Hard Rock Exploration, Inc.

Operator's Well Number HR-484

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.

Donald R. Thompson
Signature

Date Sept 15 ²⁰¹⁴

Company Name _____
By _____
Its _____ Date _____

Signature _____ Date _____

Received

SEP 17 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

10/17/2014

**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
Robert & Linda Lou Nichols	Reserve Oil and Gas, Inc.	% of 1/8	247/714
Donald R & Marilyn K Thompson	Hard Rock Exploration, Inc.	% of 1/8	252/109
Patricia L & John F Learman	Carter Oil & Gas, Inc.	% of 1/8	250/411
Reserve Oil and Gas, Inc.	J & M Resources	Assignment	504/459
J & M Resources	Hard Rock Exploration, Inc.	Assignment	252/85
Carter Oil & Gas, Inc.	Hard Rock Exploration, Inc.	Assignment	265/296

**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

SEP 17 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:
By: Its:

Hard Rock Exploration, Inc.
Monique Hansi
Executive Vice President

WW-2B1
(5-12)

Well No. HR-484

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

SEP 17 2014

**WATER NOTICE
FOR
HARD ROCK EXPLORATION, INC.
WELL HR-484A**

Donald Thompson
P O Box 173
Palestine, WV 26160

James Slingerland
141 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

Reedy Bible Mission
4649 Parkersburg Rd.
Reedy, WV 25270

Stutler's Run Farm & Feed Supply, LLC
717 Stutler's Run
Reedy, WV 25270

Luella Greathouse
5495 Parkersburg Rd.
Reedy, WV 25270

Robert Justice
5549 Parkersburg Rd.
Reedy, WV 25270

Danny & Sharon Butler
177 Cain's Run
Reedy, WV 25270

**True Line Surveying, Inc.
8/15/14**

*MUST SAMPLE ONE
WATER WELL BEFORE
SPUDDING WELL.*

JWM

Received

SEP 17 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) Folley Run of Reedy Creek Quadrangle Reedy, WV 7.5'

Elevation 1019' 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

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 _____)

20

Will closed loop system be used? No

Received

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

SEP 17 2014

-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

Office of Oil and Gas
WV Dept. of Environmental Protection

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

-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



Subscribed and sworn before me this 20th day of August, 2014

Joan L. Beane Notary Public

My commission expires Sept. 6, 2022

10/17/2014

8704744H

Form WW-9

Operator's Well No. HR-484

Proposed Revegetation Treatment: Acres Disturbed 1.33 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 protection in place at all times.

Title: Inspector

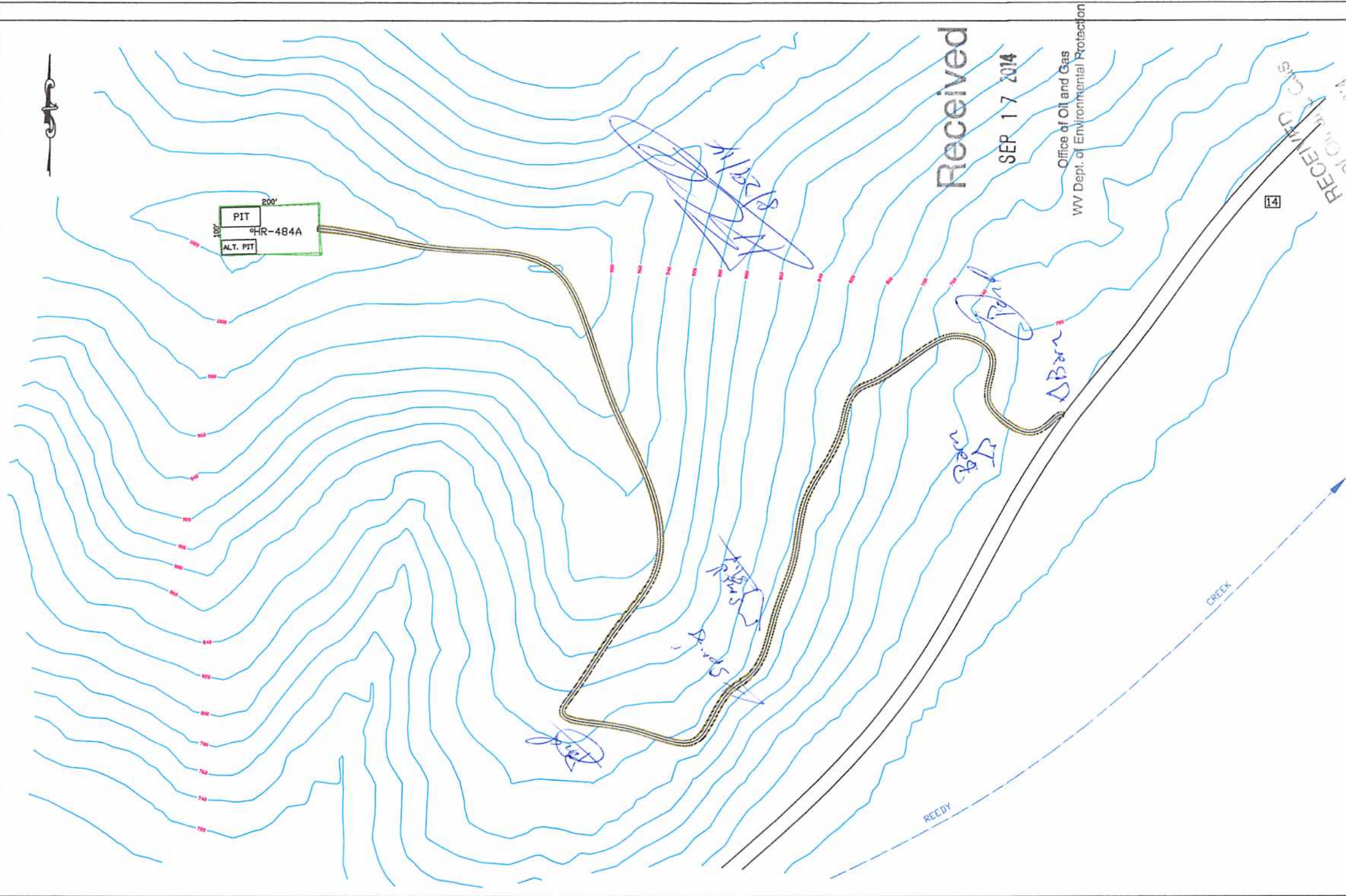
Date: 8/29/14

Field Reviewed? Yes No

Received

SEP 17 2014

8704744A



100'	PIT	200'
	HR-484A	
	ALT. PIT	

Received

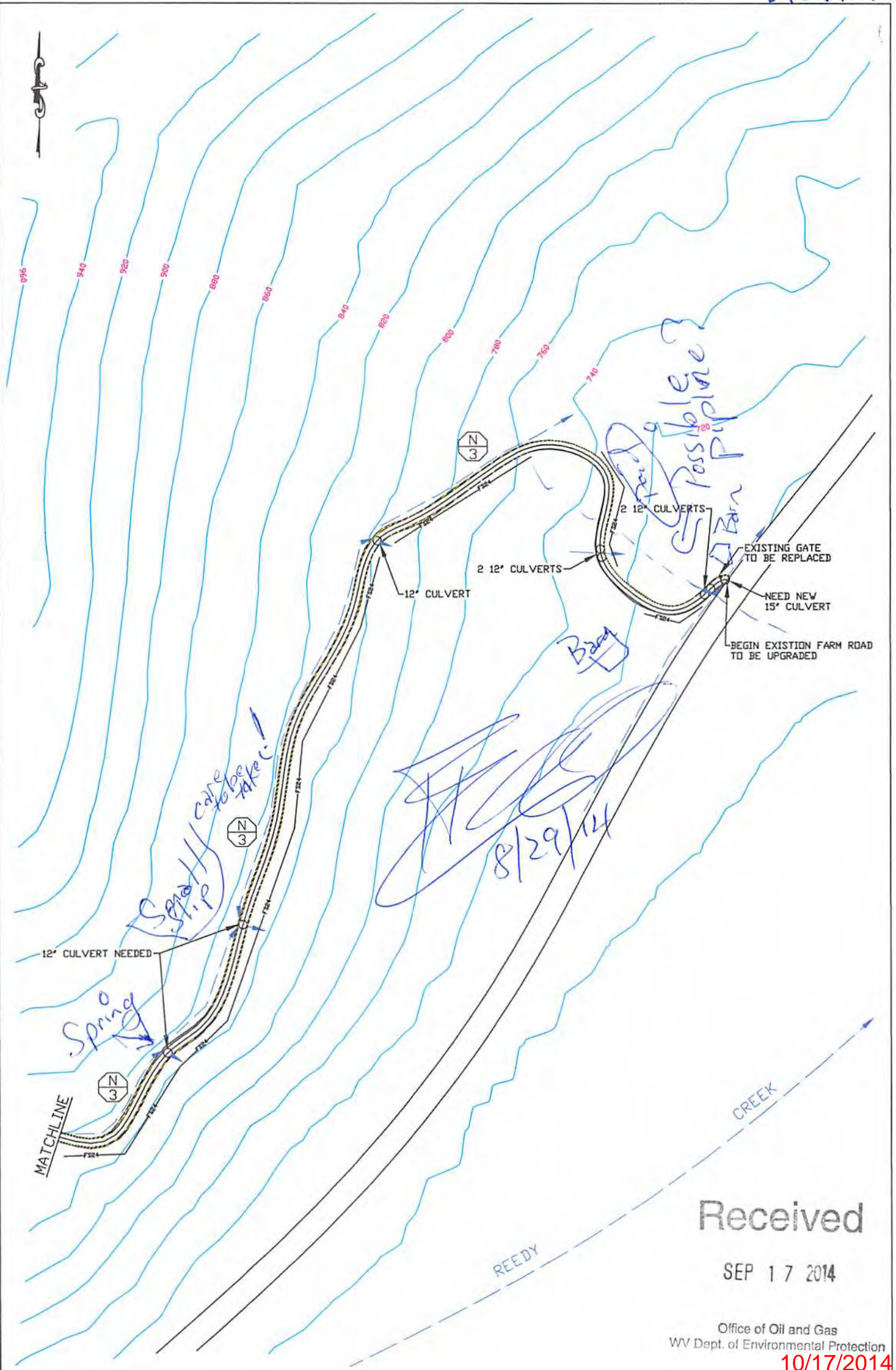
SEP 17 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

RECEIVED
Office of Oil and Gas

DISTURBED AREAS		LEGEND	SITE PLAN	
WELL PAD CONSTRUCTION	0.48 AC.	STREAM	HARD ROCK EXPLORATION	Office of Oil and Gas
NEW ACCESS ROAD CONSTRUCTION	0.85 AC.	PROPERTY LINE	PROPOSED WELL # HR-484A	
ADDITIONAL CLEARING		SLOPE AREA	REEDY DISTRICT, ROANE COUNTY	
TOTAL DISTURBED AREA	1.33 AC	WETLAND	REEDY QUAD, WV 7.5'	August 11, 2014
		BUFFER AREA		TRUE LINE SURVEYING
				6211 FAIRVIEW DR.
				HUNTINGTON, WV 25705
				PAGE 1 OF 1





Received

SEP 17 2014

Office of Oil and Gas
 WV Dept. of Environmental Protection
 10/17/2014

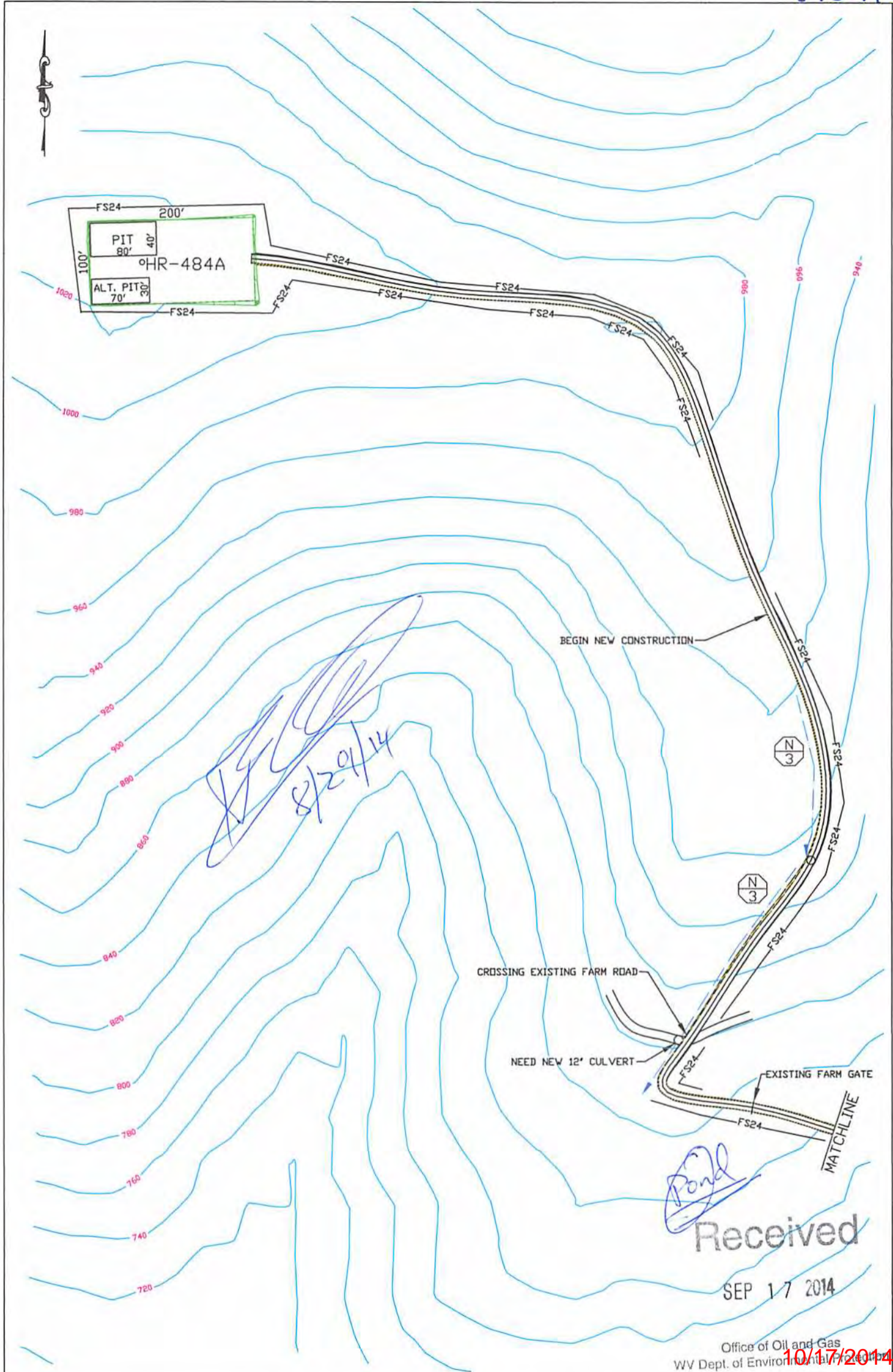
LEGEND

	PROVIDE FLEXTERRA HIGH PERFORMANCE FLEXIBLE GROWTH MEDIUM (HP-FLM) ON CUT AND FILL SLOPES
	LEVEL SPREADER
	DIVERSION DITCH
	BERM OUTLET

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

EROSION AND SEDIMENT CONTROL PLAN

HARD ROCK EXPLORATION PROPOSED WELL # HR-484A REEDY DISTRICT, ROANE COUNTY REEDY QUAD, WV 7.5'	
AUGUST 13, 2014	
TRUE LINE SURVEYING 6211 FAIRVIEW DR. HUNTINGTON, WV 25705	
PAGE	1 OF 2



Received

SEP 17 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

LEGEND

- PROVIDE FLEXTERRA HIGH PERFORMANCE FLEXIBLE GROWTH MEDIUM (HP-FLM) ON CUT AND FILL SLOPES
- LEVEL SPREADER
- DIVERSION DITCH
- BERM OUTLET

- STREAM
- PROPERTY LINE
- SLOPE AREA
- WETLAND
- 24' COMPOST FILTER SOCK AS REQUIRED

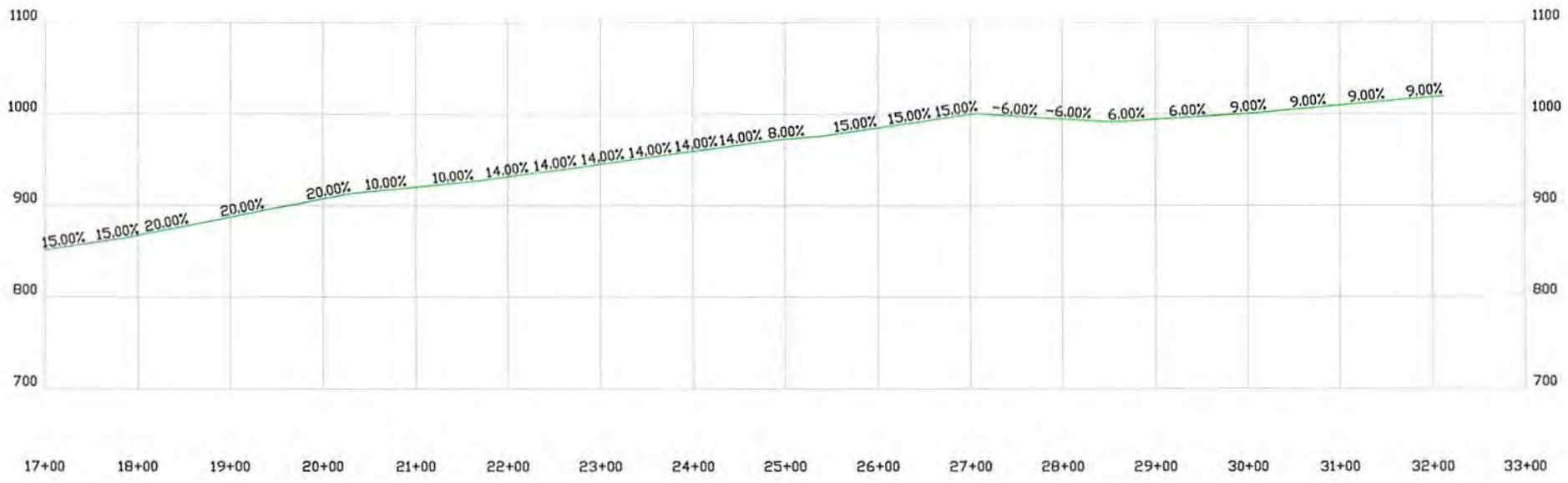
EROSION AND SEDIMENT CONTROL PLAN

HARD ROCK EXPLORATION
PROPOSED WELL # HR-484A
REEDY DISTRICT, ROANE COUNTY
REEDYL QUAD, WV 7.5'
AUGUST 13, 2013
TRUE LINE SURVEYING
6211 FAIRVIEW DR.
HUNTINGTON, WV 25705

PAGE 2 OF 2



8704744H



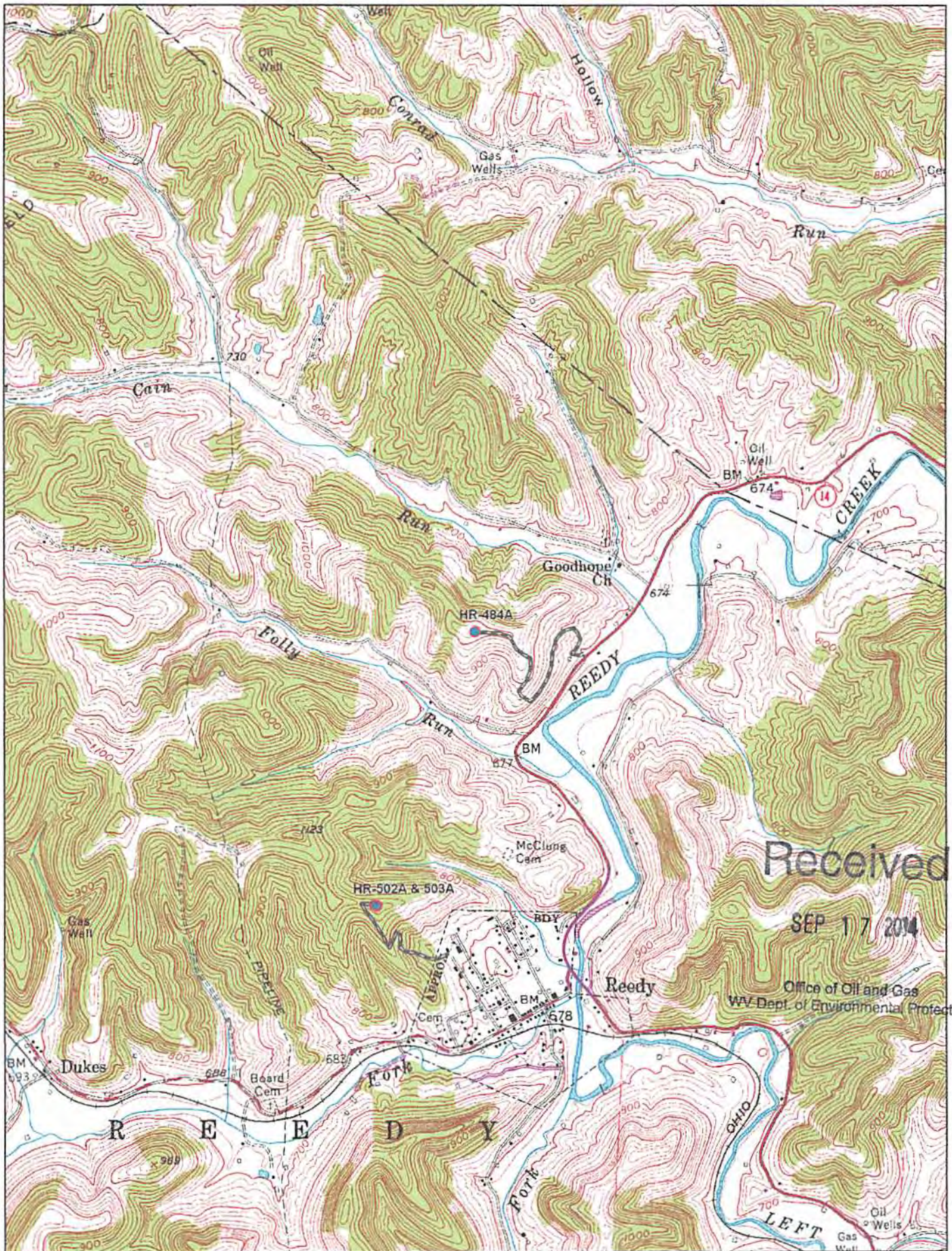
Received

SEP 17 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

ROAD PROFILE
HARD ROCK EXPLORATION PROPOSED WELL # HR-484A REEDY DISTRICT, ROANE COUNTY REEDY QUAD, WV 7.5'
AUGUST 12, 2014
TRUE LINE SURVEYING 6211 FAIRVIEW DR. HUNTINGTON, WV 25705
PAGE 1 OF 1





Received

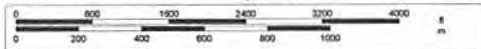
SEP 17 2014

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



10/17/2014

SURFACE HOLE ← 883' → BOTTOM HOLE

3439'

LATITUDE 38°55'00"

SURFACE HOLE

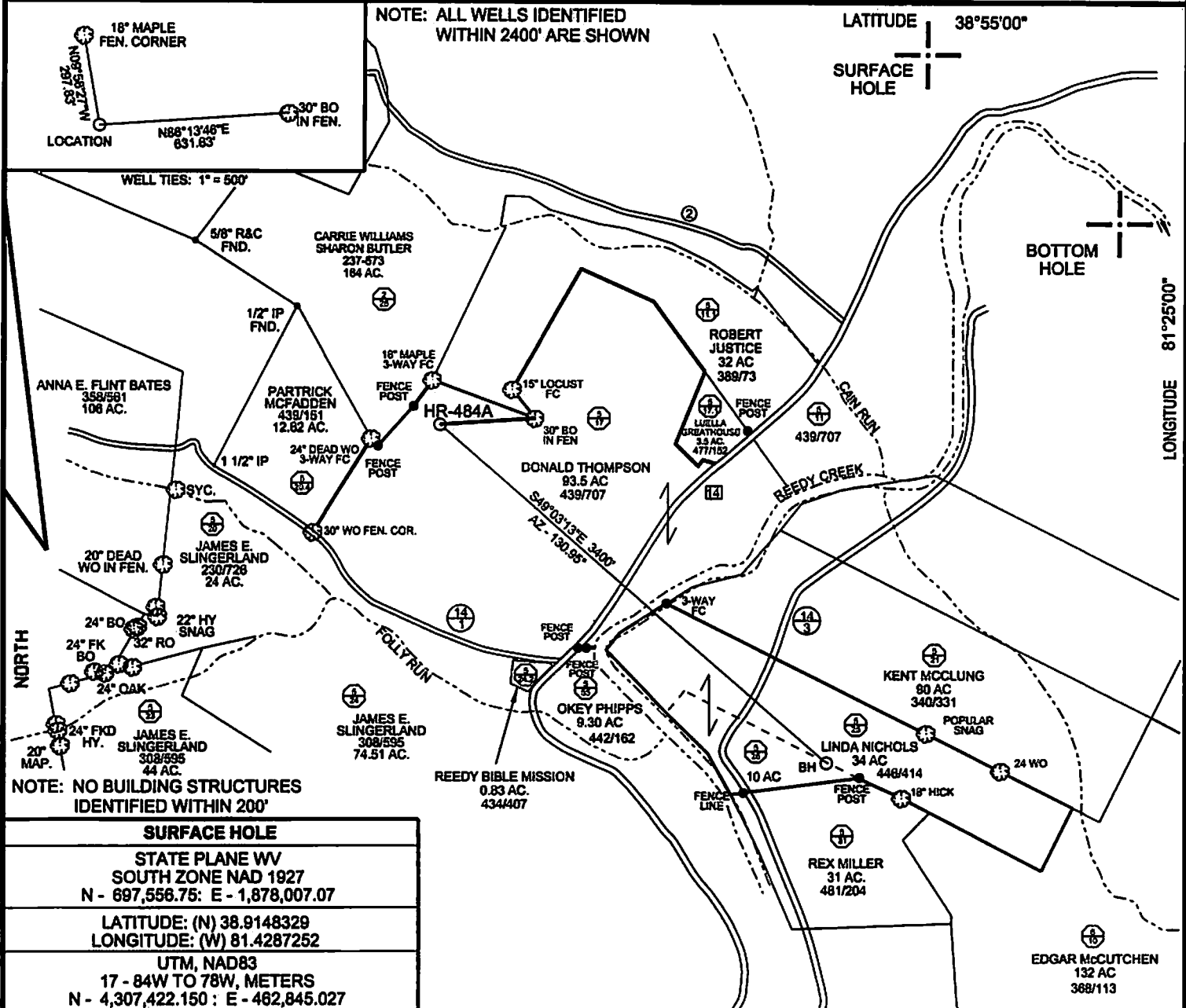
BOTTOM HOLE

LONGITUDE 81°25'00"

SURFACE HOLE 687'

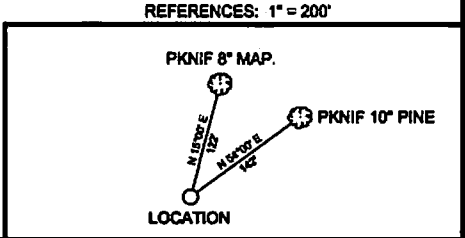
BOTTOM HOLE 2908'

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 - 697,556.75	E - 1,878,007.07
LATITUDE: (N) 38.9148329	LONGITUDE: (W) 81.4287252
UTM, NAD83	17 - 84W TO 78W, METERS
N - 4,307,422.150	E - 462,845.027
BOTTOM HOLE	
STATE PLANE WV	SOUTH ZONE NAD 1927
N - 695,328.56	E - 1,880,575.17
LATITUDE: (N) 38.9087474	LONGITUDE: (W) 81.4198671
UTM, NAD83	17 - 84W TO 78W, METERS
N - 4,306,743.217	E - 463,627.235

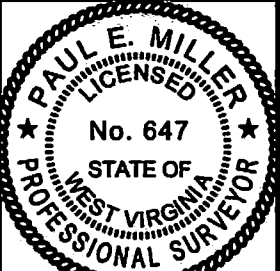


FILE NO.	HR-484A
DRAWING NO.	HR-484A
SCALE	1" = 1000'
MINIMUM DEGREE OF ACCURACY	1:200
PROVEN SOURCE OF ELEVATION	MAPPING GRADE GPS

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 13, 2014
OPERATOR'S WELL NO. HR-484A
API WELL NO. _____

47 087 04744 H
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 1,019' WATER SHED FOLLY RUN OF REEDY CREEK
DISTRICT REEDY COUNTY ROANE COUNTY
QUADRANGLE REEDY, WV 7.5'

SURFACE OWNER DONALD THOMPSON ACREAGE 93.5
OIL & GAS ROYALTY OWNER Nichols, Thompson, Learman LEASE ACREAGE 739.5
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 7800' MD, 4659' TVD

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

FORM WW-6

COUNTY NAME PERMIT

8704744H

Hard Rock Consulting, LLC



To: Jesse McLaughlin - 004
From: HardRock
2014 SEP 16 P 1:25

August 20, 2014

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

RE: Permit for well HR-484

Dear Gene:

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.

Received

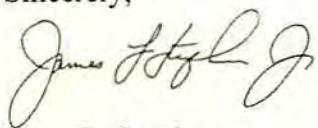
SEP 17 2014

- (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

SEP 17 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

10/17/2014

Hard Rock Consulting, LLC



Hard Rock Land Services, LLC

August 20, 2014

West Virginia Department of
Environmental Protection
Office of Oil & Gas
Attn: James Martin
601 57th Street SE
Charleston, WV 25304

Ref: Permit application for well HR-484; crossing roads identified as: County Route 14 within TM 5 Parcel 17 located in the Reedy District of Roane County, State of West Virginia

Dear Mr. Martin:

Please be advised that Hard Rock Exploration, Inc. (Hard Rock) has the right to explore for, develop, produce, measure, and market natural gas and oil produced from the planned well identified in the above referenced permit application. This authority was granted to Reserve Oil and Gas, Inc., as Lessee, by the Oil & Gas Lease, dated July 12, 2011, and recorded in the Public Records of the County of Roane, in Book 247, Page 714, in West Virginia; to Carter Oil and Gas, Inc., as Lessee, by the Oil & Gas Lease, dated February 25, 2013, and recorded in the Public Records of the County of Roane, in Book 250 Page 411, in West Virginia; and to Hard Rock Exploration, Inc., as Lessee, by the Oil & Gas Lease, dated July 8, 2014, and recorded in the Public Records of the County of Roane, in Book 252 Page 169, in West Virginia. The rights for the Reserve Oil and Gas, Inc. lease were then granted to J & M Resources by assignment recorded in Book 504, Page 459 and then granted to Hard Rock Exploration, Inc. by assignment recorded in Book 252 Page 87. The rights for the Carter Oil and Gas, Inc. lease were then granted to Hard Rock Exploration, Inc. by assignment recorded in Book 265, Page 296. Consistent with the rights granted, Hard Rock has the authority to explore for and drill under the road/right-of-way identified above.

Please direct questions to Monica Francisco, at (304)984-9004, or by email to: monica@hardrockexploration.com.

Regards,

HARD ROCK EXPLORATION, INC.

Monica Francisco
Executive Vice President

Received

SEP 17 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

encl.