



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 09, 2013

WELL WORK PERMIT

Horizontal Well

This permit, API Well Number: 47-8704736, 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-494A
Farm Name: CALLOW , PEARL ., ET. AL.
API Well Number: 47-8704736
Permit Type: Horizontal Well
Date Issued: 07/09/2013

Promoting a healthy environment.

07/12/2013

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

87 04 538

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

2) Operator's Well Number: HR-494 3) Elevation: 678'

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: 4290'TVD

6) Proposed Total Depth: 8330' MD Feet Formation at Proposed Total Depth: Lower Huron

7) Approximate fresh water strata depths: Deepest Estimated Freshwater - 410'-530'

8) Approximate salt water depths: 1330' , 1500-1700'

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/ Produced Fluid; Drill 6 3/8" Bottom hole on Air KOP-3690', Land curve-4640'MD/ 4290'TVD , 4300'VS, 8330'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#	580'	580'	CTS-286cuft
Coal						
Intermediate	7"	LS	19#	2300'	2300'	CTS-498cuft
Production	4 1/2"	N-80	11.6#	8330'	8330'	CTS-498cuft
Tubing						
Liners						

Received

JUN 7 2013

Packers: Kind: Mechanical Set open hole packer

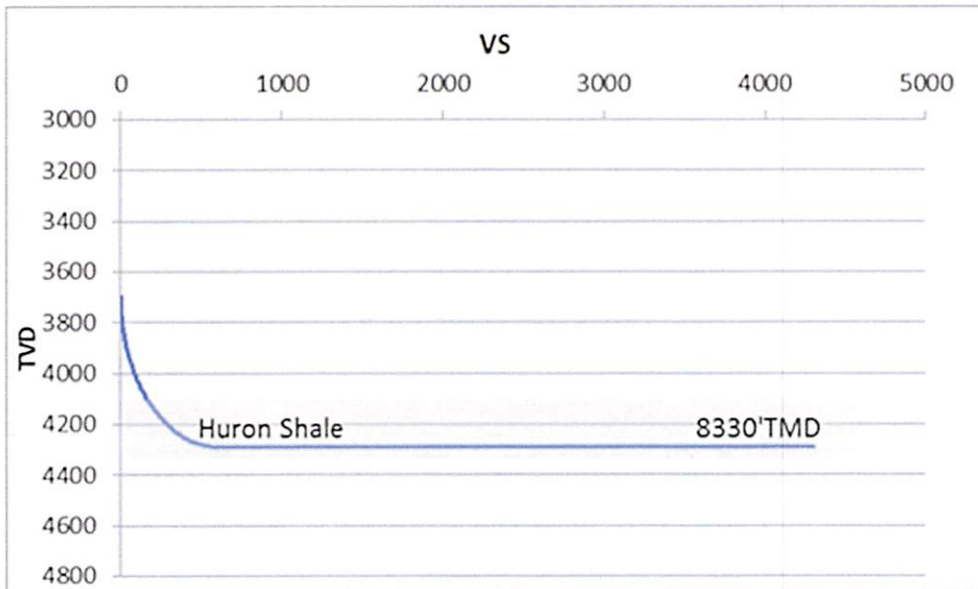
Office of Oil and Gas
WV Dept. of Environmental Protection

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

Depths Set Place 17stg open hole packer system from 4330'MD- 8330' (235' spacing per stg) , 18th packer at 2600' Dump 130cuft

07/12/2013

NOTICE
WELLBORE GRAPH
HARD ROCK EXPLORATION WELL NO. HR-494



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

2-7-13

Received

JUN 7 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

07/12/2013

WW-2A
(Rev. 6-07)

1.) Date: February 7, 2013
2.) Operator's Well Number HR-494
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

Check # 000 283
\$ 650.00

4) Surface Owner(s) to be served:
(a) Name Pearl Callow, et al.
Address c/o George Callow
50 Dicks Run Road
(b) Name Reedy, WV 25270
Address
(c) Name
Address
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 Pearl Callow, et al.
Address c/o George Callow
50 Dicks Run Road
Name Reedy, WV 25270
Address
(c) Coal Lessee with Declaration
Name None
Address

TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:

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

OR 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:

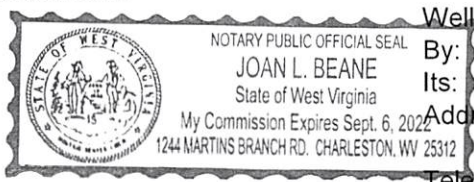
- Personal Service (Affidavit attached)
- X Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

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.

Received
JUN 7 2013



Well Operator Hard Rock Exploration, Inc.
By: S. Bryan Tanner
Its: Land Manager
Address 1244 Martins Branch Road
Charleston, WV 25312
Telephone (304)984-9004

Subscribed and sworn before me this 7th day of February, 2013

Joan L. Beane Notary Public

My Commission Expires Sept. 6, 2022
Oil and Gas Privacy Notice

WW-2A Surface Waiver

SURFACE OWNER WAIVER

County Roane

Operator

Hard Rock Exploration, Inc.

Operator well number

HR-494

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.

Nettie Catherine Parsons Date Feb. 14, 13
Signature

Company Name
By
Its

Received

JUN 7 2013

Nettie Catherine Parsons

Print Name

Office of Oil and Gas
WV Dept. of Environmental Protection

Signature

Date

07/12/2013

SURFACE OWNER WAIVER

8704736 #

County Roane

Operator Hard Rock Exploration, Inc.
Operator well number HR-494

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FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

John M Callow Signature Date 2/16/13

John M Callow

Print Name

Company Name _____
By _____
Its _____ Date JUN 7 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

Signature _____ Date _____

07/12/2013

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Roane

Operator Hard Rock Exploration, Inc.

Operator's Well Number HR-494

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

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

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

WAIVER

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

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

Nettie Catherine Parsons Date 2,14,13
Signature

Company Name _____
By _____
Its _____ Date _____

Signature _____ Date _____

Received

JUN 7 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

07/12/2013

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Roane

Operator Hard Rock Exploration, Inc.

Operator's Well Number HR-494

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FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

John M. Callow Signature Date 7/16/13

Company Name _____
By _____
Its _____ Date _____

Signature _____ Date _____

Received

JUN 7 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

07/12/2013

WW-2B1
(5-12)

Well No. HR-494

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
NOTICE

Received
JUN 7 2013
Office of Oil and Gas
WV Dept. of Environmental Protection

07/12/2013

NOTICE
WATER TESTING
HARD ROCK EXPLORATION WELL NO. HR-494A

THE FOLLOWING WATER SOURCES WERE IDENTIFIED WITHIN 2000' OF THE ABOVE PROPOSED WELL SITE:

Pearl Callow, et. al.
C/O George Callow
50 Dicks Run Rd.
Reedy WV 25270

Burke-Parsons-Bowlby Corp.
3210 Parkersburg Rd.
Reedy WV 25270

Randal & Ernestine Mullen
3553 Parkersburg Rd.
Reedy WV 25270

Richard E. Mullen
3629 Parkersburg Rd
Reedy WV 25270

Millman Surveying, Inc.
3475 Forest Lake Dr.
Suite 175
Uniontown OH 44685

Ken Reynolds
837 Grace Rd.
Reedy WV 25270

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

02-06-13

Received
JUN 7 2013
Office of Oil and Gas
WV Dept. of Environmental Protection

07/12/2013

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

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name Hard Rock Exploration, Inc. OP Code 494464205

Watershed Reedy Creek Quadrangle Peniel, WV 7.5'

Elevation 678' County Roane District Reedy

Description of anticipated Pit Waste: Drill Cuttings

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

Will a synthetic liner be used in the pit? Yes _____ If so, what mil.? 40 or greater 20 mil

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number UIC2D0190460, 3416729685)
- Reuse (at API Number 8704669, 3502970, 3502987, 3502999, 8704700, 8704698, 8704703, 8704713 - Well will be noted in DMR)
- _____ Off Site Disposal (Supply form WW-9 for disposal location)
- _____ Other (Explain _____)

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

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

Additives to be used? Soap, KCl, or Clay Stay

Will closed loop system be used? No

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 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 S. Bryan Tanner

Company Official (Typed Name) S. Bryan Tanner

Company Official Title Land Manager

Office of Oil and Gas
WV Dept. of Environmental Protection

Received
JUN 7 2013

Subscribed and sworn before me this 7th day of February, 2013

Joan L. Beane
Notary Public

My commission expires Sept. 6, 2022



LEGEND

- Property Boundary
- Road
- Existing Fence
- Planned Fence
- Stream
- Open Ditch
- Rock
- North
- Buildings
- Water wells
- Drill site

- Diversion
- Spring
- Wet Spot
- Drain Pipe with size in inches
- Waterway
- Cross Drain
- Artificial Filter Strip
- Pit: cut walls
- Pit: compacted fill walls
- Area for Land Application of Pit Waste

Proposed Revegetation Treatment: Acres Disturbed 0.63 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: _____

Received
 JUN 7 2013

Office of Oil and Gas
 WV Dept. of Environmental Protection

Title: Inspector Date: 2/18/13

Field Reviewed? Yes No



07/12/2013

DISTURBED AREAS		LEGEND		SITE PLAN	
WELL PAD CONSTRUCTION	0.47 AC.		STREAM	HARD ROCK EXPLORATION PROPOSED WELL # HR-494A	
NEW ACCESS ROAD CONSTRUCTION	0.16 AC.		PROPERTY LINE	REEDY DISTRICT, ROANE COUNTY PENIEL QUAD, WV 7.5'	
ADDITIONAL CLEARING			SLOPE AREA	FEBRUARY 06, 2013	
			WETLAND	TRUE LINE SURVEYING 6211 FAIRVIEW DR. HUNTINGTON, WV 25705	
TOTAL DISTURBED AREA	0.63 AC		BUFFER AREA	PAGE <u>1</u> OF <u>1</u>	



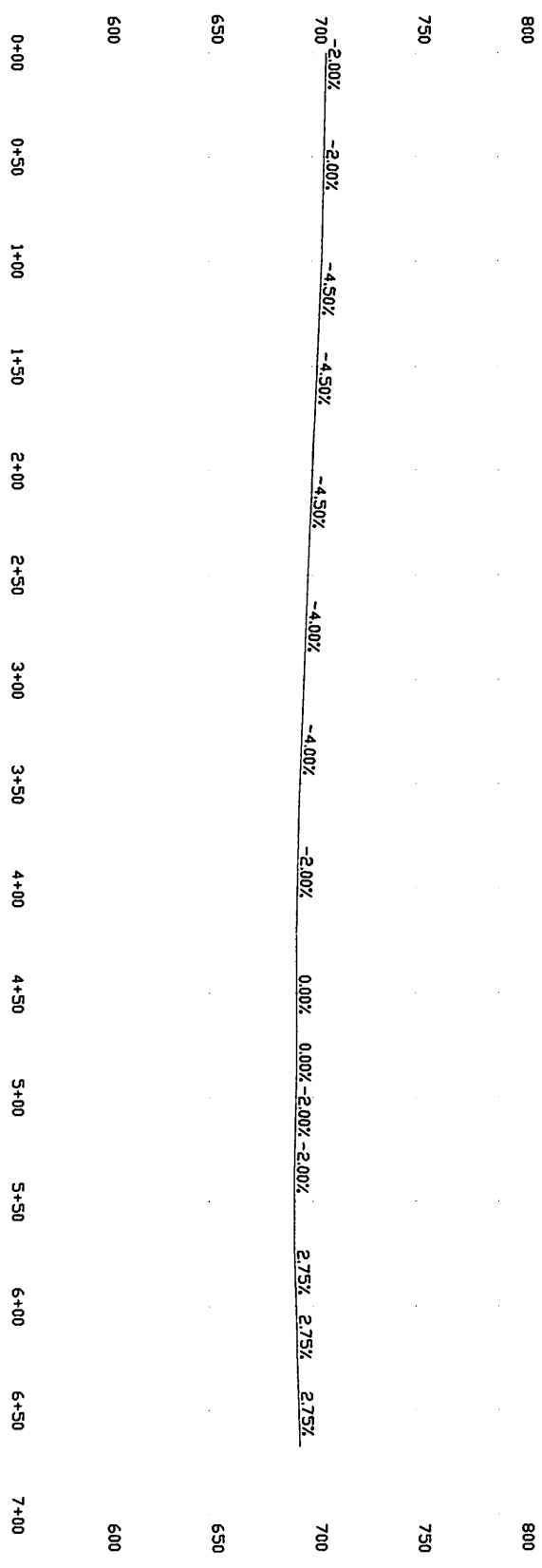
07/12/2013

LEGEND

N 1	PROVIDE FLEXTERRA HIGH PERFORMANCE FLEXABLE GROWTH MEDIUM (HP-FLM) ON CUT AND FILL SLOPES	— — — — —	STREAM
N 2	LEVEL SPREADER	—————	PROPERTY LINE
N 3	DIVERSION DITCH	▨▨▨▨▨▨▨▨▨▨	SLOPE AREA
N 4	BERM OUTLET	▧▧▧▧▧▧▧▧▧▧	WETLAND
		— FS24 —	24" COMPOST FILTER SOCK AS REQUIRED

EROSION AND SEDIMENT CONTROL PLAN

HARD ROCK EXPLORATION PROPOSED WELL # HR-494A	
REEDY DISTRICT, ROANE COUNTY PENIEL QUAD, WV 7.5'	
FEBRUARY 06, 2013	
TRUE LINE SURVEYING 6211 FAIRVIEW DR. HUNTINGTON, WV 25705	
PAGE 1 OF 1	



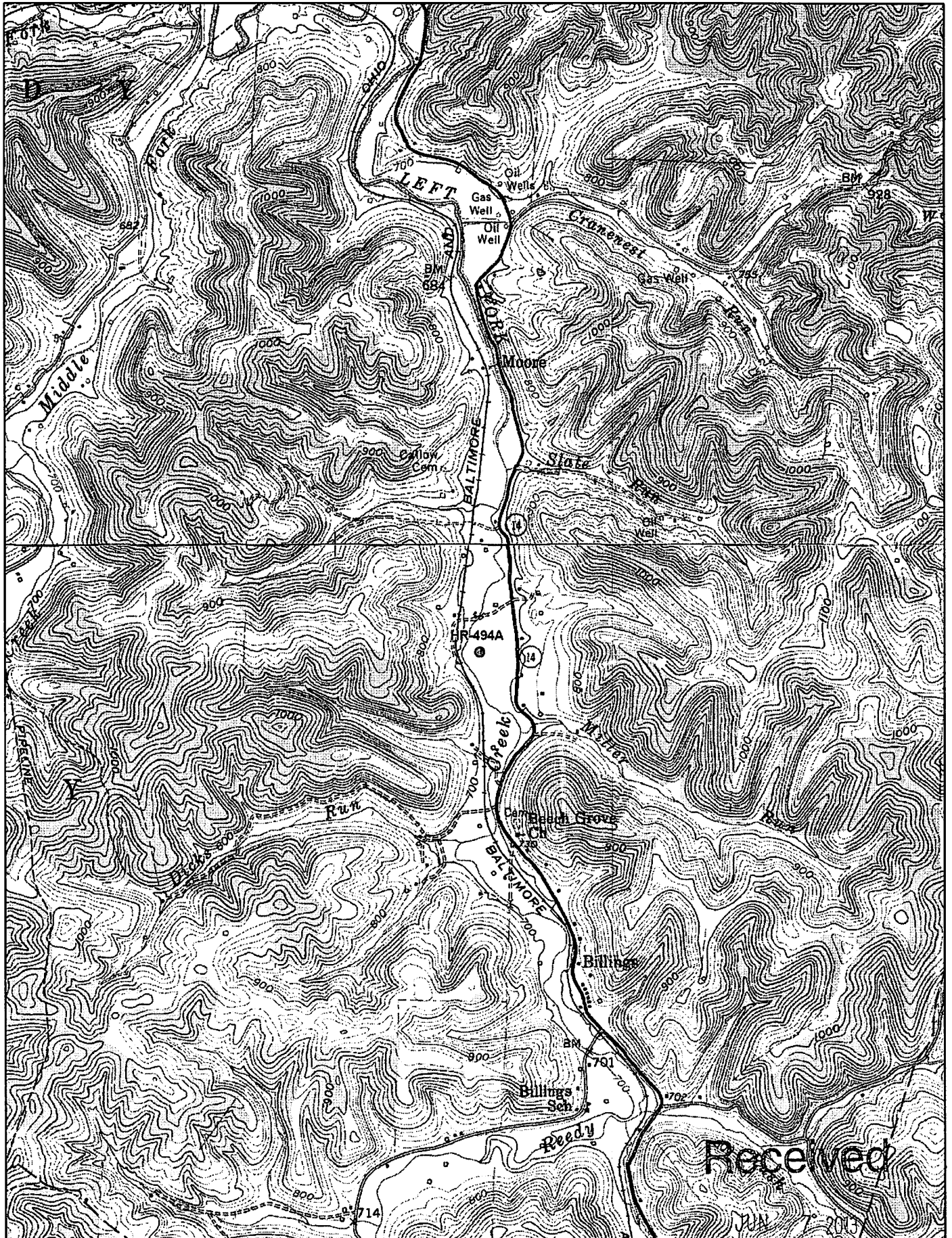
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07/12/2013

JUN 7 2013

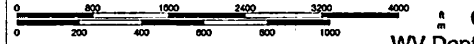
Office of Oil and Gas
WV Dept. of Environmental Protection

ROAD PROFILE
HARD ROCK EXPLORATION PROPOSED WELL # HR-494A
REEDY DISTRICT, ROANE COUNTY PENIEL QUAD, WV 7.5'
FEBRUARY 06, 2013
TRUE LINE SURVEYING 6211 FAIRVIEW DR. HUNTINGTON, WV 25705
PAGE <u>1</u> OF <u>1</u>



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 Zoom Level: 14-0 Datum: NAD27

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



Received

JUN 7 2013

Office of Oil and Gas
 WV Dept. of Environment, Protection and Forestry

07/12/2013

SURFACE

BH

9,627'

5,996'

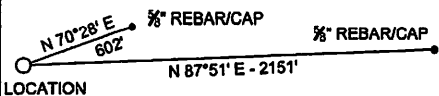
LATITUDE 38°52'30"

NOTE: ALL WELLS IDENTIFIED WITHIN 2400' ARE SHOWN

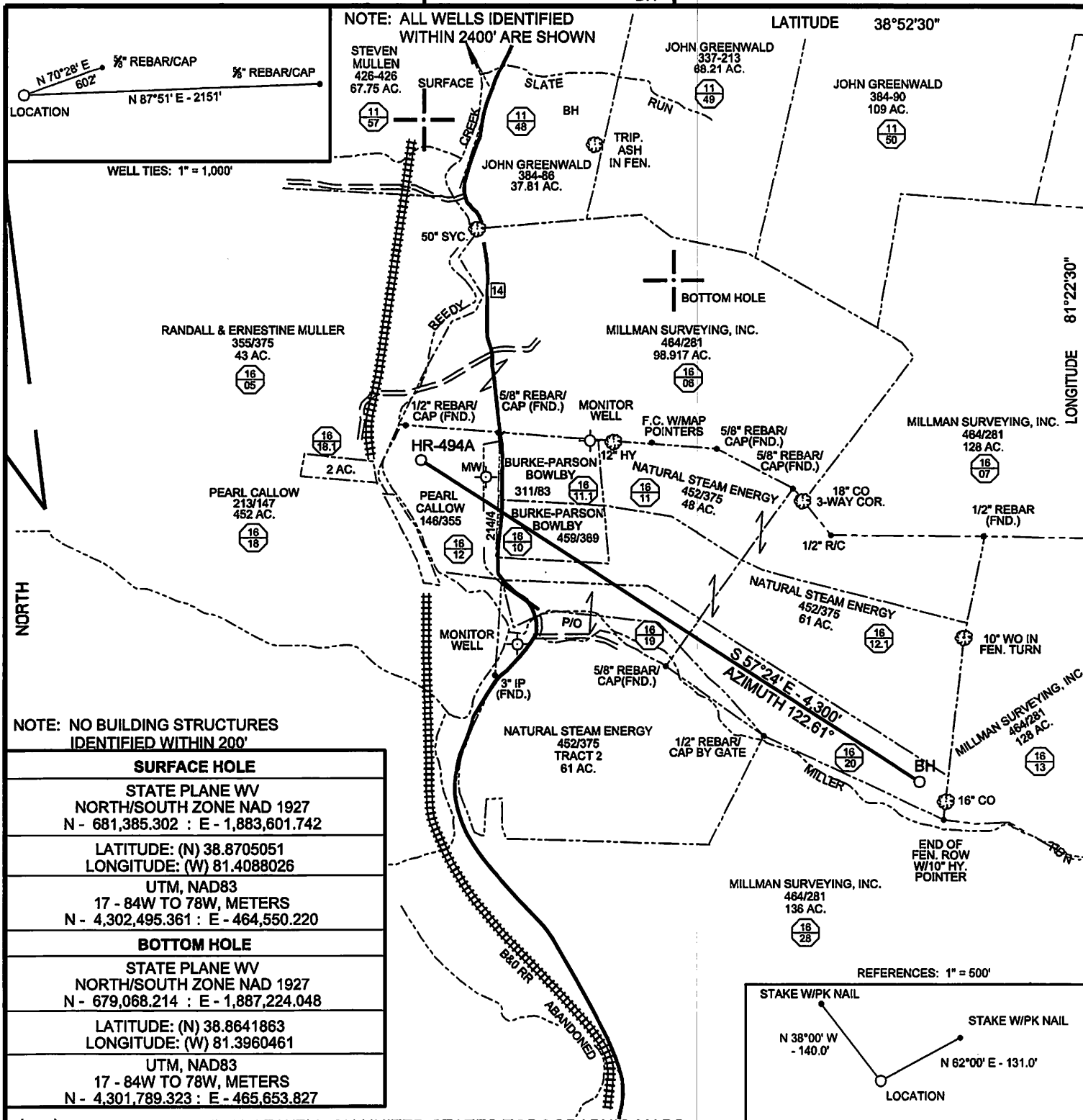
STEVEN MULLEN 426-426 67.75 AC.

JOHN GREENWALD 337-213 89.21 AC.

JOHN GREENWALD 384-80 109 AC.



WELL TIES: 1" = 1,000'



NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

SURFACE HOLE

STATE PLANE WV NORTH/SOUTH ZONE NAD 1927 N - 681,385.302 : E - 1,883,601.742

LATITUDE: (N) 38.8705051 LONGITUDE: (W) 81.4088026

UTM, NAD83 17 - 84W TO 78W, METERS N - 4,302,495.361 : E - 464,550.220

BOTTOM HOLE

STATE PLANE WV NORTH/SOUTH ZONE NAD 1927 N - 679,068.214 : E - 1,887,224.048

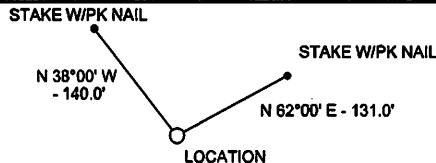
LATITUDE: (N) 38.8641863 LONGITUDE: (W) 81.3960461

UTM, NAD83 17 - 84W TO 78W, METERS N - 4,301,789.323 : E - 465,653.827

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

MILLMAN SURVEYING, INC. 464/281 136 AC.

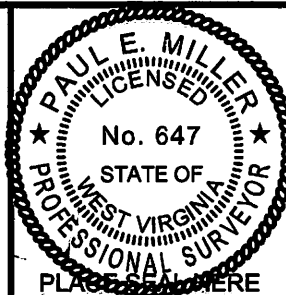
REFERENCES: 1" = 500'



FILE NO. HR-494.DGN
DRAWING NO. HR-494
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 FEBRUARY 6, 20 13
OPERATOR'S WELL NO. HR-494A
API WELL NO. _____

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

47 087 04736
STATE COUNTY PERMIT

LOCATION: ELEVATION 678' WATER SHED REEDY CREEK
DISTRICT REEDY COUNTY ROANE
QUADRANGLE PENIEL, WV 7.5'

SURFACE OWNER PEARL CALLOW, et al. ACREAGE 20
OIL & GAS ROYALTY OWNER Callow, Carpenter, Griner, Elkins, Harlow, Hutson, Jackson, Mannion, et al. LEASE ACREAGE 594.71
LEASE NO. _____

07/12/2013

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 9370' MD; 4290' TUD
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