



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

November 13, 2013

WELL WORK PERMIT

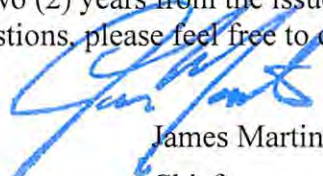
Re-Work

This permit, API Well Number: 47-10301937, issued to HG ENERGY, LLC, 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: IRENE REILLY 15
Farm Name: WV PUBLIC LANDS CORP.
API Well Number: 47-10301937
Permit Type: Re-Work
Date Issued: 11/13/2013

Promoting a healthy environment.

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. If well work related activities require the use of water obtained by withdrawals from waters of this state in amounts that exceed two hundred ten thousand gallons during any thirty day period, the operator is required to consult, and adhere to, the guidance provided by DEP's Water Withdrawal Guidance Tool prior to any water withdrawals.

10301937 R

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

- 1) Well Operator: HG Energy, LLC
- 2) Operator's Well Number: Irene Reilly No. 15 3) Elevation 1169'
- 4) Well Type: (a) Oil X or Gas _____
 (b) If Gas: Production X Underground Storage _____
- 5) Proposed Target Formation(s): Gordon
- 6) Proposed Total Depth: 3,200' ft.
- 7) Approximate fresh water strata depths: 659'
- 8) Approximate salt water depths: 1686'
- 9) Approximate coal seam depths: 931'
- 10) Does land contain coal seams tributary to active mine? Yes _____ No X
- 11) Proposed Well Work: Stimulate producing well in the Gordon

CASING AND TUBING PROGRAM

DHH
10-23-13

TYPE	SPECIFICATIONS		Weight Per Ft.	FOOTAGE INTERVALS		CEMENT
	Size	Grade		For Drilling	Left in Well	
Conductor						
Fresh Water	7"	LS	17#	452'	452'	Use Existing Casing
Coal						
Intermediate						
Production	4 1/2"	J-55	10.5#	3139'	3139'	Use Existing Casing
Tubing						
Liners						

Packers: Kind _____
 Sizes _____
 Depths set _____

RECEIVED

For Office of Oil and Gas Use Only

Office of Oil and Gas

- Fee(s) Paid Well Work Permit Reclamation Fund WPCP
- Plat WW-9 WW-2B Bond Agent

OCT 25 2013

Department of Environmental Protection

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Well Operator's Report of Well Work

COPY

Farm name: WV Public Lands Corp
LOCATION: Elevation: 1,169.00
District: GREEN
Latitude: 2,075 Feet south of
Longitude: 7,500 Feet west of

Operator Well No.: I REILLY 15
Quadrangle: CENTERPOINT 7.5'
County: WETZEL
39 Deg 30 Min 0 Sec.
80 Deg 40 Min 00 Sec.

Company: EAST RESOURCES, INC.
P.O. BOX 5519
VIENNA, WV 26105-5519

Agent: MICHAEL MCCOWN

Inspector: MIKE UNDERWOOD
Permit Issued: 03/31/03
Well work Commenced: 04/14/03
Well work Completed: 07/20/03

Verbal plugging permission granted on:
Rotary X Cable _____ Rig _____
Total Depth (feet) 3200'
Fresh water depths (ft) NA
Salt water depths (ft) NA
Is coal being mined in area (Y/N) N
Coal Depths (ft): NA

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
7"	451.60'	451.60'	105 sks
4 1/2"	3139.20'	3139.20'	145 sks

OPEN FLOW DATA Waterflood producer

Producing formation Gordon Pay zone depth (ft) 3018'-3039'
 Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
 Final open flow _____ MCF/d Final open flow _____ Bbl/d
 Time of open flow between initial and final tests _____ Hours
 Static rock pressure _____ psig (surface pressure) after _____ Hours

Second producing formation _____ Pay zone depth (ft) _____
 Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
 Final open flow _____ MCF/d Final open flow _____ Bbl/d
 Time of open flow between initial and final tests _____ Hours
 Static rock pressure _____ psig (surface pressure) after _____ Hours

NOTE: ON BACK OF THIS FORM, PUT THE FOLLOWING: 1) DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2) THE WELL LOG WHICH IS A SYSTEMATIC GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: EAST RESOURCES, INC. WV Department of Environmental Protection
By: [Signature]
Date: 8/19/03

Treatment : Treated perforations 3030'-3039' w/ 250 gals 15% HCL, 312 bbls cross linked gel and 14,000 # 20/40 sand

<u>Well Log :</u>			
	Sand and Shale	0'	254'
	Sand	254'	268'
	Shale	268'	324'
	Sand	324'	334'
	Shale	334'	376'
	Sand	376'	410'
	Shale	410'	725'
	Sand	725'	820'
	Shale	820'	934'
	Sand	934'	950'
	Shale	950'	1020'
	Sand	1020'	1032'
	Shale	1032'	1134'
	Sand	1134'	1160'
	Shale	1160'	1358'
	Sand	1358'	1408'
	Shale	1408'	1470'
	Sand	1470'	1508'
	Shale	1508'	1564'
	Sand	1564'	1606'
	Shale	1606'	1744'
	Sand	1744'	1786'
	Shale	1786'	1944'
	Shale	1944'	2184'
	Big Lime	2184'	2260'
	Big Injun	2260'	2420'
	Shale	2420'	2998'
	Gordon Stray	2998'	3011'
	Shale	3011'	3019'
	Gordon	3019'	3040'
	shale	3040'	3200'
	TD	3200'	

Received

OCT 25 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

1) Date: October 21, 2013
2) Operator's Well Number
Irene Reilly No. 15
3) API Well No: 47 - 103 - 1937
State County Permit

**STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT
DIVISION 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 WV Public Lands Corporation ✓
Address 1900 Kanawha Blvd. East
Charleston, WV 25305
(b) Name _____
Address _____
(c) Name _____
Address _____
6) Inspector Derek Haught
Address P. O. Box 85
Smithville, WV 26178
Telephone (304) - 206-7613

5) (a) Coal Operator:
Name NA
Address _____
(b) Coal Owner(s) with Declaration
Name NA
Address _____
Name _____
Address _____
(c) Coal Lessee with Declaration
Name NA
Address _____

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

_____ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas **OR**
X _____ Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

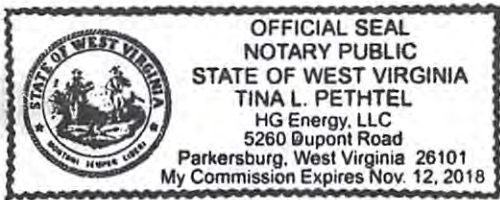
I certify that as required under Chapter 22 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through 4 on the above-named parties, by:

_____ 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 38 CSR 11-18, 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 HG Energy, LLC
By: Diane C. White Diane C. White
Its: Accountant
Address 5260 Dupont Road
Parkersburg, WV 26101
Telephone (304) 420-1119

Subscribed and sworn before me this 21 day of October 2013
Tina L. Pethel Notary Public
My commission expires Nov. 12, 2018

10301937R

Form WW-2A(1)
(6/94)

Operator's Well No. Irene Reilly No. 15

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
Irene Reilly et al.	South Penn Oil Co.	1/8	47/193

Merger and Conveyance dated July 3, 1963, from South Penn Oil Company to Penzoil Company, Kanawha County, Book 153, Page 35,

Assignment, Conveyance and Bill of Sale dated December 28, 1998, from Pennzoil Company to Pennz Energy Exploration and Production, Wetzel County, Book 12, Page 177.

Certificate of Merger filed with the WV Secretary of State, December 31, 1999, whereby Pennz Energy Exploration and Production, successor in interest to; to Penzoil Company, merged with Devon Energy Production Company, LP, Wetzel County, Book 12, Page 278.

Deed, Assignment and Bill of Sale dated June 1, 2000, from Devon Energy Production Company, LP to East Resources, Inc., recorded in Wetzel County, Book 370, Page 580.

Assignment, Conveyance and Bill of Sale, dated January 1, 2011, from East Resources, Inc., to HG Energy, LLC, Wetzel County, Book 118A, Page 253.

Upon information and belief, Operator's lease and/or other real property rights permit it to conduct drilling operations for the subject well in the location shown on the plat, including the use of access roads, pipelines and utilities.

Upon information and belief, Operator's lease and/or other real property rights permit it to conduct drilling operations for the subject well in the location shown on the plat, including the use of access roads, pipelines and utilities.

**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
- US Fish and Wildlife Service
- County Floodplain Coordinator

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OCT 25 2013

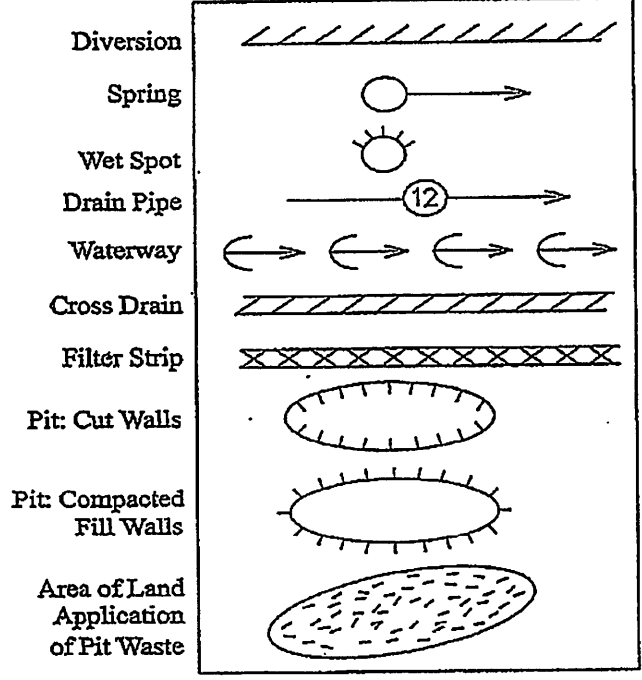
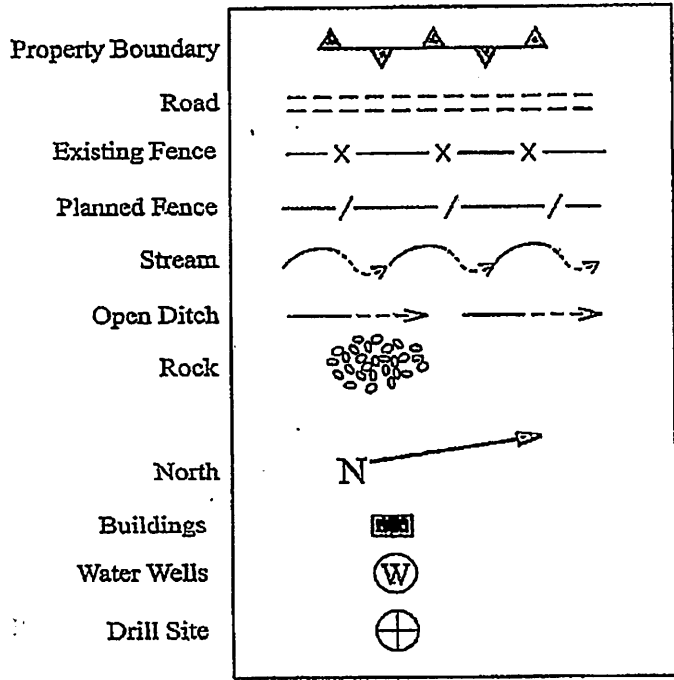
WV Department of
Environmental Protection

Well Operator: HG Energy, LLC

By: Diane C. White *Diane C White*

Its: Accountant

Legend



Proposed Revegetation Treatment: Acres Disturbed Area I Approx. 0.2 Ac. Prevegetation pH _____
Area II Approx. 0.2 Ac.

Lime 2 Tons/Acre or Correct to pH 6.5
 Fertilizer (10-20-20 or Equivalent) 500 Lbs./Acre (500 lbs. Minimum)
 Mulch Straw 2 Tons/Acre

SEED MIXTURES

Seed Type	Area I (Location)	Lbs./Ac.
Tall Fescue		40
Ladino Clover		5

Seed Type	Area II (Road)	Lbs./Ac.
Tall Fescue		40
Ladino Clover		5

Received

OCT 25 2013

Attach:
 Drawing(s) of road, location, pit and proposed area for land application
 Photocopied section of involved 7.5' topographic sheet.

Office of Oil and Gas
 WV Dept. of Environmental Protection

Plan approved by: _____
 Title: Oil Gas Inspector Date: 10-23-13
 Field Reviewed? Yes _____ No _____

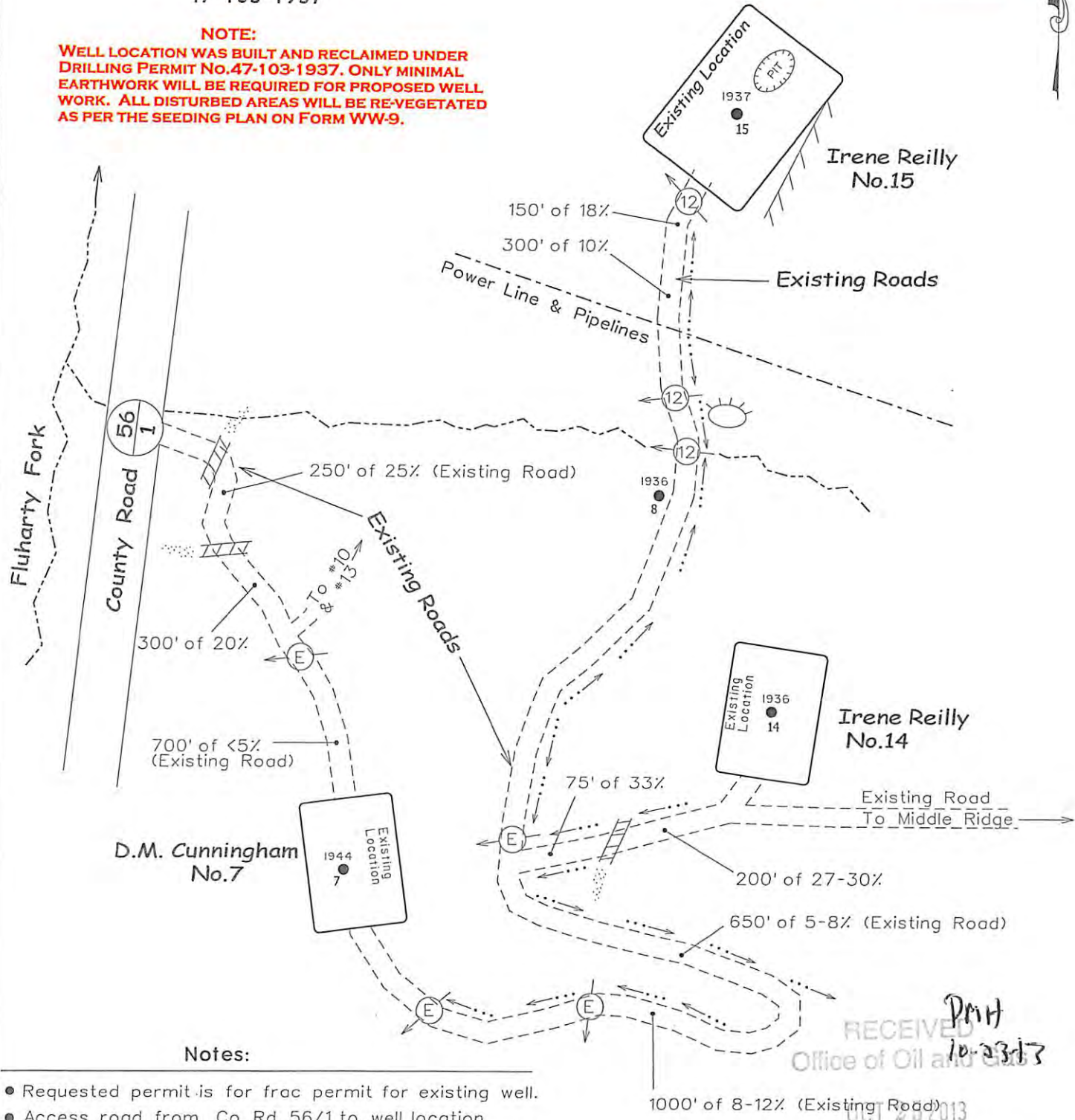
Reclamation Plan For: Irene Reilly No. 15

47-103-1937

NOTE
REFER TO THE WVDEP
EROSION AND SEDIMENT CONTROL
FIELD MANUAL VER. MAY 2012 FOR
BMPs CONTROLLING EROSION AND
SEDIMENT FROM SOIL-DISTURBING
OPERATIONS.



NOTE:
WELL LOCATION WAS BUILT AND RECLAIMED UNDER
DRILLING PERMIT No.47-103-1937. ONLY MINIMAL
EARTHWORK WILL BE REQUIRED FOR PROPOSED WELL
WORK. ALL DISTURBED AREAS WILL BE RE-VEGETATED
AS PER THE SEEDING PLAN ON FORM WW-9.



Notes:

- Requested permit is for frac permit for existing well.
- Access road from Co. Rd. 56/1 to well location is existing. Structures will be upgraded & maintained.
- All disturbed areas will be re-vegetated as outlined on Form WW-9.
- Maintain sediment barriers and drainage structures.
- All road grades <5% except as noted.
- Location of workover pit may be changed based on as-built considerations.

Note: Drawing not to Scale

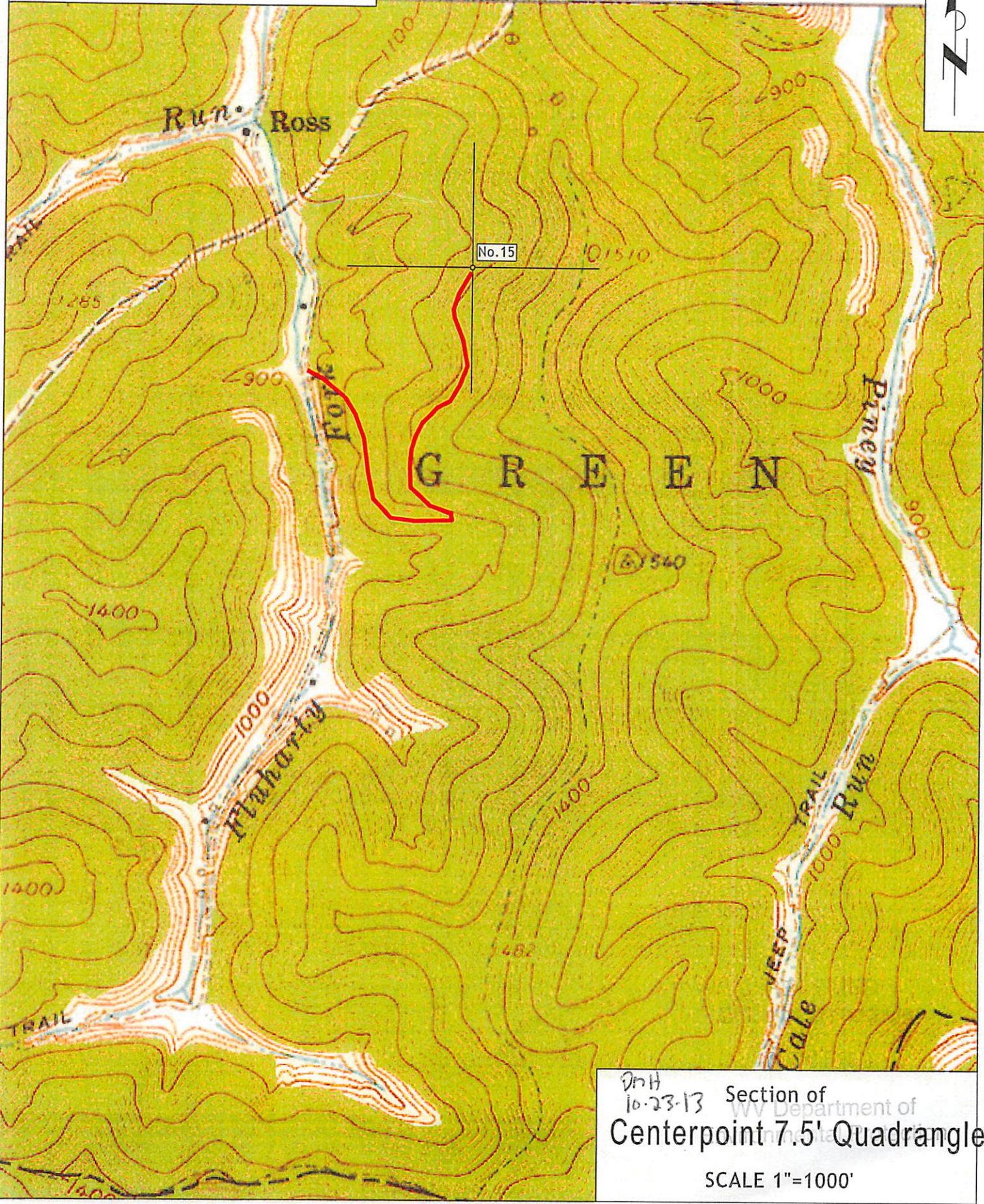
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10-23-13
OCT 29 2013

WV Department of
Environmental Protection

(E) - Existing Culvert

SUBJECT WELL
Irene Reilly No.15
47-103-1937

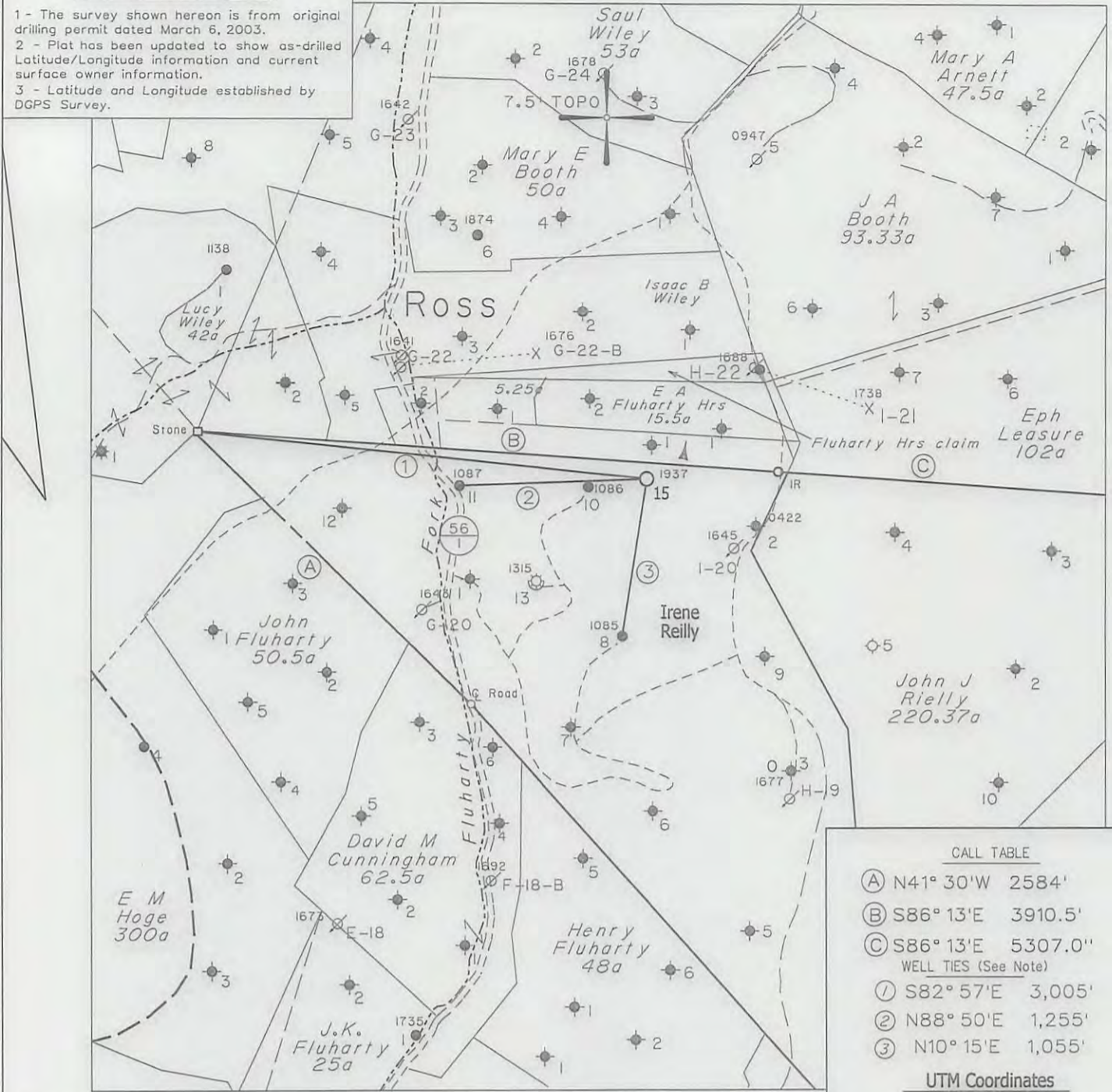
AND OTHER STATE AGENCY
4863 II SW
(PINE GROVE)



DnH
10-23-13 Section of
WV Department of
Centerpoint 7.5' Quadrangle
SCALE 1"=1000'

NOTES ON SURVEY

- 1 - The survey shown hereon is from original drilling permit dated March 6, 2003.
- 2 - Plot has been updated to show as-drilled Latitude/Longitude information and current surface owner information.
- 3 - Latitude and Longitude established by DGPS Survey.



CALL TABLE

- (A) N41° 30'W 2584'
- (B) S86° 13'E 3910.5'
- (C) S86° 13'E 5307.0'
- WELL TIES (See Note)
- (1) S82° 57'E 3,005'
- (2) N88° 50'E 1,255'
- (3) N10° 15'E 1,055'

UTM Coordinates

(NAD 83 - Meters)
 N - 4,371,684
 E - 526,389

NOTE: All known water supply sources within 1000' of proposed well are shown.
 (+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

Denotes Water Supply Source.

FILE NO. 1037-65
 MAP NO. N S E W
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1 in 200
 PROVEN SOURCE OF ELEVATION DGPS Survey
 2/27/03

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 MINES.

(SIGNED) *Timothy P. Roush*
 TIMOTHY P. ROUSH PS 793



WEST VIRGINIA
 Division of Environmental Protection
 Office of Oil and Gas
 1356 Hansford St.
 Charleston, West Virginia 25301



DATE March 6, 2003
 FARM Irene Reilly NO. 15
 API WELL NO. 47-103-01937 R

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1,169' WATERSHED Fluharty Fork
 DISTRICT Green COUNTY Wetzel
 QUADRANGLE Centerpoint 7.5'

SURFACE OWNER W.Va. Public Lands Corp. ACREAGE 190.35 Ac.
 OIL & GAS ROYALTY OWNER HG Energy, LLC et al. LEASE ACREAGE
 LEASE NO.

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

PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION Gordon ESTIMATED DEPTH 3,200'
 WELL OPERATOR HG Energy, LLC DESIGNATED AGENT Mike Kirsch
 ADDRESS 5260 Dupont Road ADDRESS 5260 Dupont Road
 Parkersburg, WV 26101 Parkersburg, WV 26101

F URM IV-B

10301937 RW



HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
(304) 420-1100 - Office
(304) 863-3172 - Fax

October 21, 2013

Mr. Jeff McLaughlin
WVDEP
Division of Oil & Gas
601 57th Street
Charleston, West Virginia 25304

RE: Irene Reilly No. 15 (47-103-1937)
Green District, Wetzel County
West Virginia

Dear Mr. McLaughlin:

Enclosed are Forms WW-2A, WW-2A(1), WW-2B, WW-9, mylar of plat, reclamation plan, topo map and copies of the certified mailing receipts for a permit to stimulate the above-captioned producing well. Also enclosed is our check in the amount of \$650.00 to cover the associated permit fees.

Should you need further information please call me at 304-420-1119 or email me at dwhite@hgenergyllc.com.

Very truly yours,

Diane C. White

Enclosures

cc: WV Public Lands Corporation – Certified
Derek Haught - Inspector

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Office of Oil & Gas
OCT 23 2013
WV Department of
Environmental Protection

West Virginia Division 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.

If no water well or spring is located within 1000 feet, the Chief may require the operator to sample and analyze water from a water well or spring within 2000 feet of the proposed well site.

Be advised, you have the right to sample and analyze any water supply at your own expense.

The laboratory used by the operator to analyze the samples will be approved by the Chief. The operator named below has decided to use the following laboratory to analyze the water samples:

Contractor Name Sturm Environmental Services
 Well operator's private laboratory

Well Operator HG Energy, LLC
Address 5260 Dupont Road
Parkersburg, WV 26101

Telephone 304-420-1119

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 underlining which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site please indicates such.

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Office of Oil and Gas

OCT 25 2013

No known Water Supply Sources are located within 2000' of proposed well.

WV Department of
Environmental Protection