



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 25, 2013

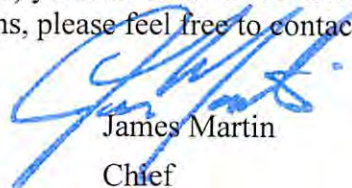
WELL WORK PERMIT
Rework-Secondary Recovery

This permit, API Well Number: 47-10301632, 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: G. V. REILLY N-19
Farm Name: WV PUBLIC LAND CORP.
API Well Number: 47-10301632
Permit Type: Rework-Secondary Recovery
Date Issued: 10/25/2013

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.

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

Well Operator's Report of Well Work

Farm name: WVA. PUBLIC LANDS Operator Well No.: G.V.REILLY N-19

LOCATION: Elevation: 1,445.00 Quadrangle: CENTER POINT

District: GREEN County: WETZEL
Latitude: 3500 Feet South of 39 Deg. 30Min. Sec.
Longitude 1200 Feet West of 80 Deg. 40 Min. Sec.

Company: PENNZOIL PRODUCTS COMPANY
P. O. BOX 5519
VIENNA, WV 26105-5519

Agent: JAMES A. CREWS

Inspector: RANDAL MICK
Permit Issued: 05/25/94
Well work Commenced: 08/24/94
Well work Completed: 09/23/94
Verbal Plugging _____
Permission granted on: _____
Rotary X Cable _____ Rig
Total Depth (feet) 3492
Fresh water depths (ft) N/A
Salt water depths (ft) N/A
Is coal being mined in area (Y/N)? N
Coal Depths (ft): N/A

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			To surface
8-5/8	706	706	50 sks.
4-1/2	3395.9	3395.9	300 sks.

OPEN FLOW DATA * Water Injection Well

Producing formation Gordon Pay zone depth (ft) 3316-3358
 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 DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

SEP 23 2013

For: PENNZOIL PRODUCTS COMPANY
By: [Signature] WV Department of Environmental Protection
Date: 1/4/95

10/25/2013

TREATMENT

Perforated with 22 holes, 3334'-3345'. Treated with 300 gallons 15% HCL acid, 234 barrels gelled water and 7000# of 20/40 sand.

WELL LOG

Sand & Shale	0'-1080'
Sand	1080'-1126'
Shale	1126'-1238'
Sand	1238'-1260'
Sand & Shale	1260'-1858'
Sand	1858'-1914'
Sand & Shale	1914'-2452'
Sand	2452'-2464'
Shale	2464'-2548'
Sand	2548'-2734'
Shale	2734'-3303'
Stray	3303'-3306'
Gordon	3316'-3358'
T.D.	3492'

Received

SEP 23 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

10/25/2013

WW-2B1

Well No. GV Reilly N-19

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.

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 indicate such.

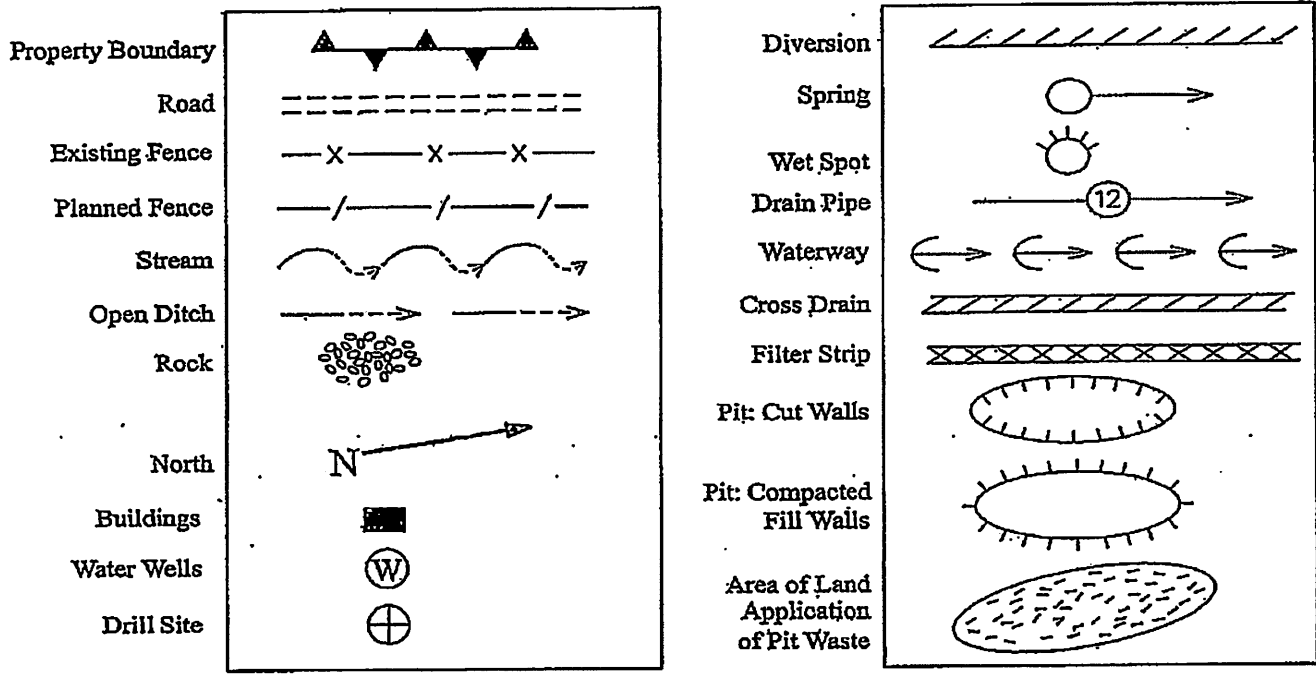
No known Water Supply Sources are located within 2000' of proposed well.

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Environmental Protection

Legend



Proposed Revegetation Treatment: Acres Disturbed Area I Approx. 1.0 Ac. Prevegetation pH _____

Area II Approx. 0.3 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

<u>Area I (Location)</u>		<u>Area II (Road)</u>	
Seed Type	Lbs/Ac.	Seed Type	Lbs/Ac.
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5

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Office of Oil and Gas

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

Plan approved by: [Signature]

Comments: _____

Title: Oil & Gas Inspector

Date: 8-19-12

Field Reviewed? Yes

No

Reclamation Plan For:

G.V. Reilly No.N-19

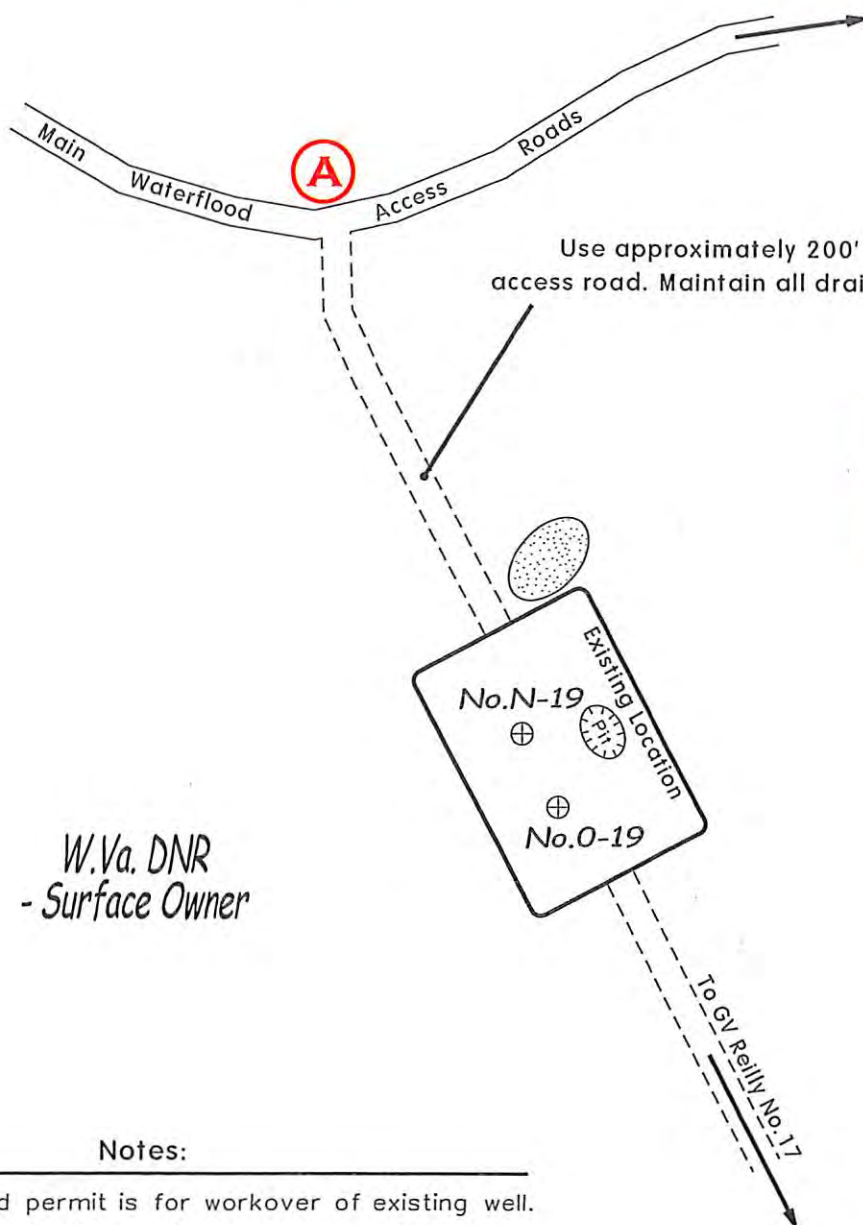
47-103-1632



NOTE:

WELL LOCATION WAS BUILT AND RECLAIMED UNDER DRILLING PERMIT NO.47-103-1632. 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. A SMALL WORKOVER PIT WILL BE CONSTRUCTED TO CONTAIN ANY FLUIDS RECOVERED DURING PROPOSED WELL WORK.

See Page 2 for Relamation Plan From Pt. **(A)** to County Road



Use approximately 200' of existing access road. Maintain all drainage structures.

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

W.Va. DNR
- Surface Owner

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Notes:

- Requested permit is for workover of existing well.
- Access from County Road to well location is existing. Structures will be 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 work-over pit may be changed based on as-built considerations.

DMA
8-19-13

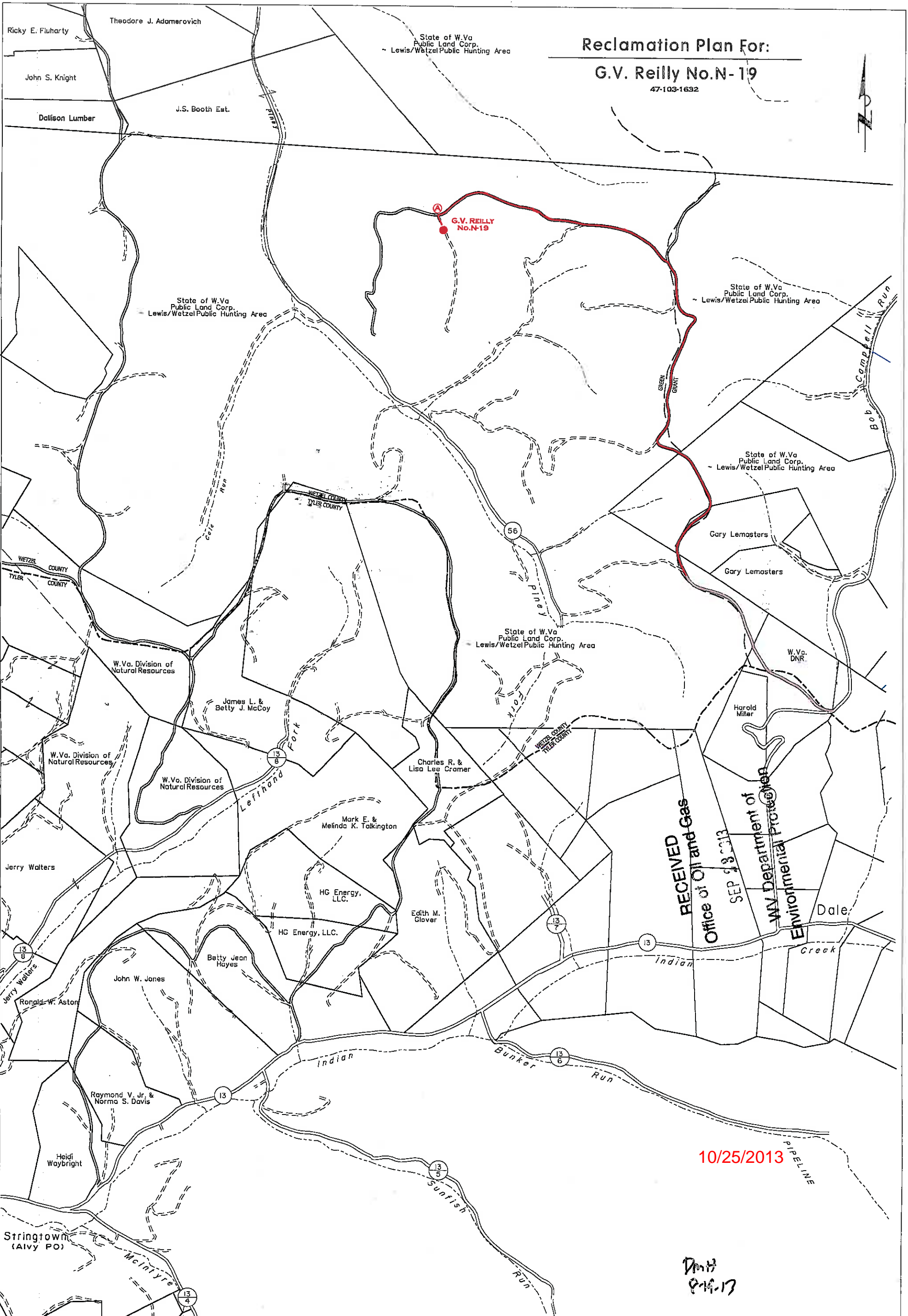
10/25/2013

State of W.Va
Public Land Corp.
Lewis/Wetzel Public Hunting Area

Reclamation Plan For:

G.V. Reilly No.N-19





47-103-1632



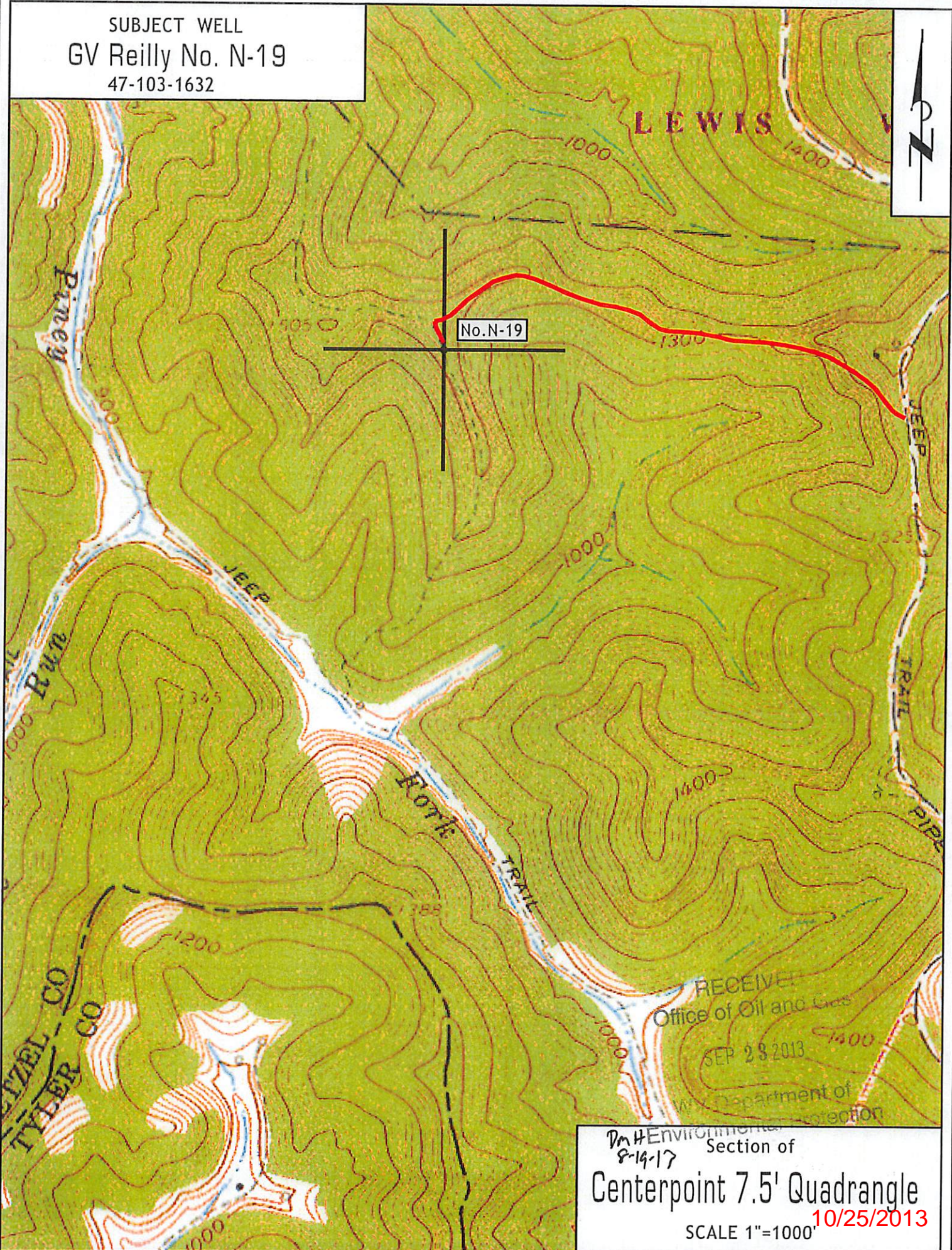
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DMS
8-14-13

 ENERGY LLC	STRINGTOWN WATERFLOOD Wetzel & Tyler Co., W.Va. RECLAMATION PLAN SHOWING MAIN WATERFLOOD ROAD SYSTEM TO BE USED FOR REQUESTED WELL WORK	NOTES 1. REFER TO THE WVDEP EROSION AND SEDIMENTATION CONTROL MANUAL (VER. MAY 20, 2013) FOR EMEP'S CONTROLLING EROSION AND SEDIMENTATION FROM ALL SOIL-DISTURBING OPERATIONS. 2. SEE PAGE ONE OF RECLAMATION PLAN FOR DETAILS OF NEW ROAD CONSTRUCTION AND ROAD UPGRADES FROM POINT (A) TO DRILL SITE LOCATION. 3. EXISTING WATERFLOOD ACCESS ROADS WILL BE MAINTAINED IN PRESENT CONDITION. THESE ROADS WERE CONSTRUCTED UNDER CONDITIONS SET FORTH IN VARIOUS DRILLING PERMITS ISSUED BY WVDEP-DOG. SEE PERMITS ON FILE FOR MORE DETAIL.	LEGEND  EXISTING WATERFLOOD ROADS  EXISTING LEASE OR FARM ROADS TO BE UPGRADED.  NEW ROADS TO BE CONSTRUCTED
	10301632RS		

SUBJECT WELL
GV Reilly No. N-19
47-103-1632



DmH Environmental Section of
8-19-17
Centerpoint 7.5' Quadrangle
SCALE 1"=1000' 10/25/2013

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WIZEL CO
TYLER CO

LEWIS

No. N-19

Piney

Run

Jeep

Rottle

TRAIL

TRAIL

TRAIL

1200

1000

1400

1000

1400

1000

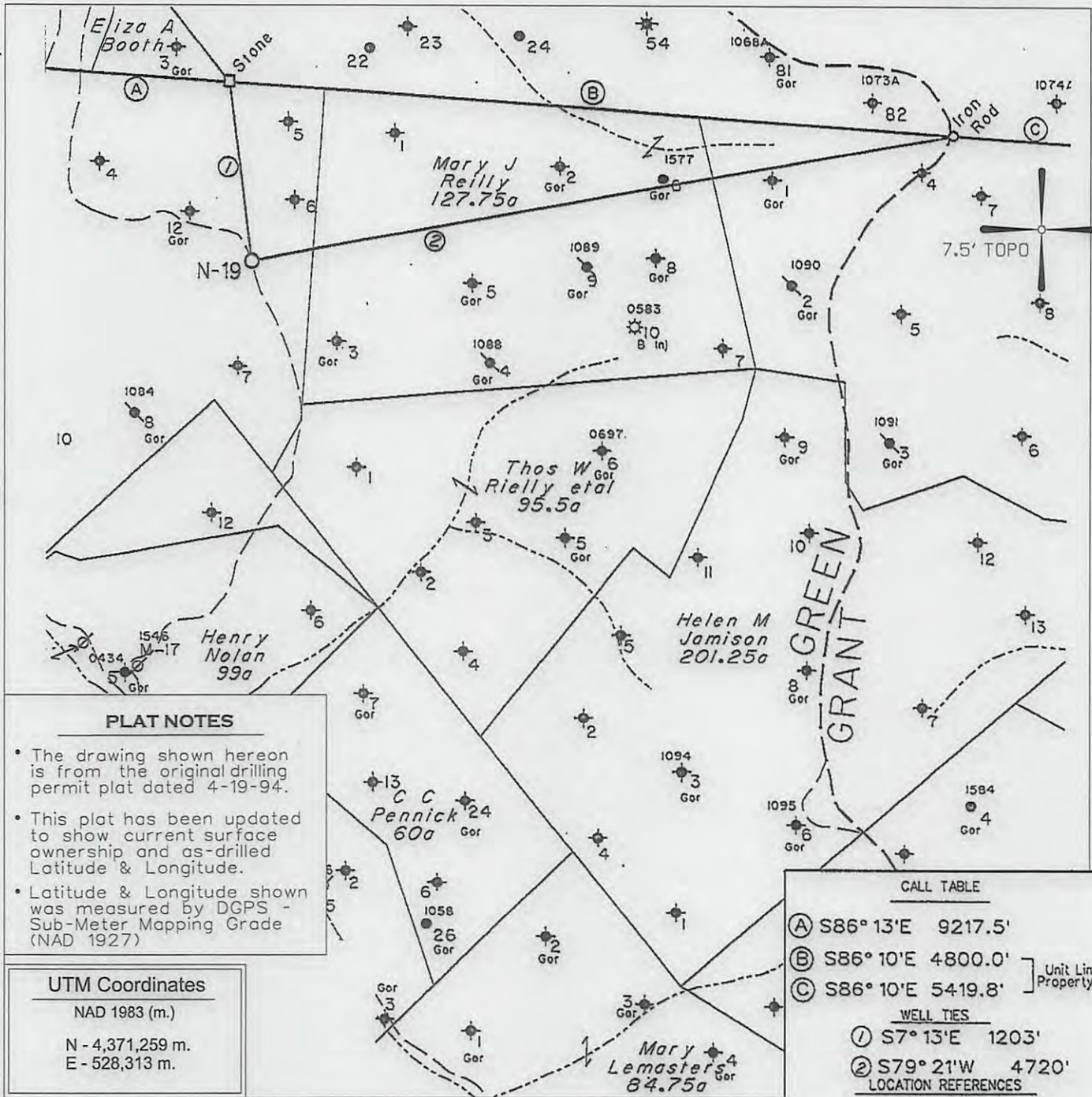
1400

1300

1200

1200

1000



PLAT NOTES

- The drawing shown hereon is from the original drilling permit plat dated 4-19-94.
- This plat has been updated to show current surface ownership and as-drilled Latitude & Longitude.
- Latitude & Longitude shown was measured by DGPS - Sub-Meter Mapping Grade (NAD 1927)

UTM Coordinates

NAD 1983 (m.)
 N - 4,371,259 m.
 E - 528,313 m.

CALL TABLE

- (A) S86° 13'E 9217.5'
 - (B) S86° 10'E 4800.0'
 - (C) S86° 10'E 5419.8'
- Unit Line & Property Line
- WELL TIES
- (1) S7° 13'E 1203'
 - (2) S79° 21'W 4720'
- LOCATION REFERENCES

Existing Well

⊕ DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

FILE NO. _____
 MAP NO. _____ N _____ S _____ E _____ W _____
 SCALE _____ 1" = 1000'
 MINIMUM DEGREE OF ACCURACY _____ Sub-Meter
 PROVEN SOURCE OF ELEVATION _____ DGPS Survey
 (Sub-Meter Mapping Grade)

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) *[Signature]*
 TIMOTHY P. ROUSH PS 793



WEST VIRGINIA
 Division of Environmental Protection
 Office of Oil and Gas
 601 57th Street
 Charleston, West Virginia 25304



DATE August 1, 2013
 FARM GV Reilly No. N-19
 API WELL NO. 47-103-01632 RS

WELL TYPE: OIL _____ GAS _____ LIQUID INJECTION WASTE DISPOSAL _____
 (IF "GAS") PRODUCTION _____ STORAGE _____ DEEP _____ SHALLOW _____
 LOCATION: ELEVATION 1,445' WATERSHED Piney Fork
 DISTRICT Green COUNTY Wetzel
 QUADRANGLE Centerpoint 7.5'

SURFACE OWNER State of West Virginia ACREAGE 259 Ac.
 OIL & GAS ROYALTY OWNER HG Energy LLC et al LEASE ACREAGE 295.5 Ac. 10/25/2013
 LEASE NO. 15634-50

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 3,492'
 WELL OPERATOR HG Energy, LLC DESIGNATED AGENT Mike Kirsch
 ADDRESS 5260 Dupont Road ADDRESS 5260 Dupont Road
 Parkersburg, WV 26101 Parkersburg, WV 26101



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

check # 2348
650.00
10301632^{AS}

August 13, 2013

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

RE: G. V. Reilly No. N-19 (API 47-103-1632)
Green District, Wetzel County
West Virginia

Dear Mr. McLaughlin:

Enclosed are the Forms WW-3A, WW-3B, WW-9, WW-2(B1), mylar of plat, reclamation plan, topo map and copy of the certified mailing receipt for a permit to stimulate the above-captioned injection well. Our check in the amount of \$650 is attached.

If you have any questions regarding this application, please call me at 304-420-1119 or email at dwhite@hgenergyllc.com.

Very truly yours,

Diane C White

Diane C. White

Enclosures

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

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WV Department of
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10/25/2013