



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

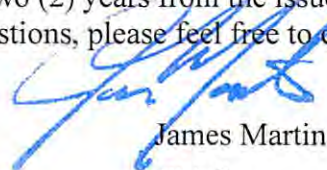
WELL WORK PERMIT
Secondary Recovery Well

This permit, API Well Number: 47-10301738, 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: E. LEASURE I-21
Farm Name: KNIGHT, JOHN & BONNIE
API Well Number: 47-10301738
Permit Type: Secondary Recovery Well
Date Issued: 10/25/2013

Promoting a healthy environment.

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: Knight, John & Bonnie Operator Well No.: E. Leasure #I-21

LOCATION: Elevation: 1,439.00 Quadrangle: Center Point

District: Green County: Wetzel
Latitude: 1,300 Feet south of 39 Deg 30 Min 0 Sec.
Longitude: 6,775 Feet west of 80 Deg 40 Min 0 Sec.

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

Agent: PHILIP S. ONDRUSEK

Inspector: Randal Mick

Permit Issued: 6/16/97

Well work Commenced: 6/20/97

Well work Completed: 7/29/97

Verbal plugging permission granted on: _____

Rotary X Cable _____ Rig _____

Total Depth (feet) 3578'

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	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			
8-5/8"	709'	709'	325 Sacks
4 1/2"	3499.60'	3499.60'	275 Sacks

OPEN FLOW DATA

Producing formation Gordon Pay zone depth (ft) 3382'
 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.

RECEIVED
Office of Oil and Gas
SEP 20 2013

For: PENNZOIL PRODUCTS COMPANY
By: [Signature] WV Department of
Date: 3/17/98 Environmental Protection

Treatment :

Perforated Gordon sand with 36 holes from 3389'-3414' K.B. Fractured with 300 gals 15% HCL and 215 bbls gelled water and 11,000 lbs. 20/40 sand

Well Log :

All depth are relative to K.B. This well was directionally drilled.

0	718 Sand and Shale
718	788 sand
788	1034 Shale
1034	1100 sand
1100	1298 Shale
1298	1460 sand
1460	1784 Shale
1784	1827 sand
1827	1882 Shale
1882	1988 sand
1988	2284 Shale
2284	2324 sand
2324	2492 Shale
2492	2610 Big Lime
2610	2774 Big Injun
2774	3358 Shale
3358	3382 Gordon Stray
3382	3397 Gordon
3397	3578 Shale

Received

SEP 20 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

10/25/2013

103017383

7012 3050 0002 3568 5102

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

AKRON OH 44305

OFFICIAL USE

Postage	\$ 1.52	0777	
Certified Fee	\$3.10	09	
Return Receipt Fee (Endorsement Required)	\$2.55		Postmark Here
Restricted Delivery Fee (Endorsement Required)	\$0.00		
Total Postage & Fees	\$ 7.17		08/13/2013 EL I-21

Sent To
John & Bonnie Knight
 Street, Apt. No.;
 or PO Box No. **1668 Hillside Terrace** ✓
 City, State, ZIP+4 **Akron, OH 44305**

PS Form 3800, August 2006 See Reverse for Instructions

6175 8956 2000 0506 2102

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

READER WV 26167

OFFICIAL USE

Postage	\$ 1.52	0777	
Certified Fee	\$3.10	09	
Return Receipt Fee (Endorsement Required)	\$2.55		Postmark Here
Restricted Delivery Fee (Endorsement Required)	\$0.00		
Total Postage & Fees	\$ 7.17		08/13/2013 E.L. I-21

Sent To
John & Stanley Pittman
 Street, Apt. No.;
 or PO Box No. **PO Box 10** ✓
 City, State, ZIP+4 **Reader, WV 26167**

PS Form 3800, August 2006 See Reverse for Instructions

RECEIVED
 Office of Oil and Gas
 SEP 20 2013
 WV Department of
 Environmental Protection

10/25/2013

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:

X 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.

RECEIVED
Office of Oil and Gas

SEP 20 2013

WV Department of
Environmental Protection

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 HG Energy, LLC OP Code 494497948
 Watershed Fluharty Fork Quadrangle Centerpoint 7.5'
 Elevation 1439' County Wetzel District Green
 Description of anticipated Pit Waste: A pit will not be used.
 Do you anticipate more than 5,000 bbls of water to complete the proposed well work Yes No X
 Will a synthetic liner be used in pit? No If so, what mil?
 Proposed Disposal Method For Treated Pit Wastes:
 Land Application
 Underground Injection (UIC Permit Number)
 Reuse (at API Number)
 Off Site Disposal (Supply Form WW-9 for disposal location)
 Other (Explain)
 Drilling medium anticipated for this well? Air, fresh water, oil based, etc. NA
 - If oilbased, what type? Synthetic, petroleum, etc.
 Additives to be used?
 Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc.
 - If left in pit and plan to solidify, what medium will be used? Cement, lime, sawdust
 - Landfill or offsite name/permit number?

DMH
8-19-13

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.

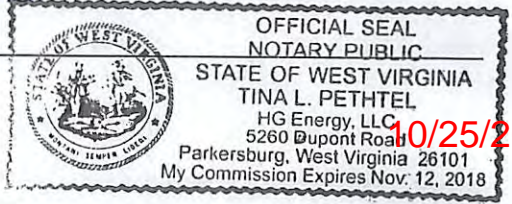
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is 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 Diane C White
 Company Official (Typed Name) Diane C. White
 Company Official Title Accountant

Subscribed and sworn before me this 12 day of August 2013

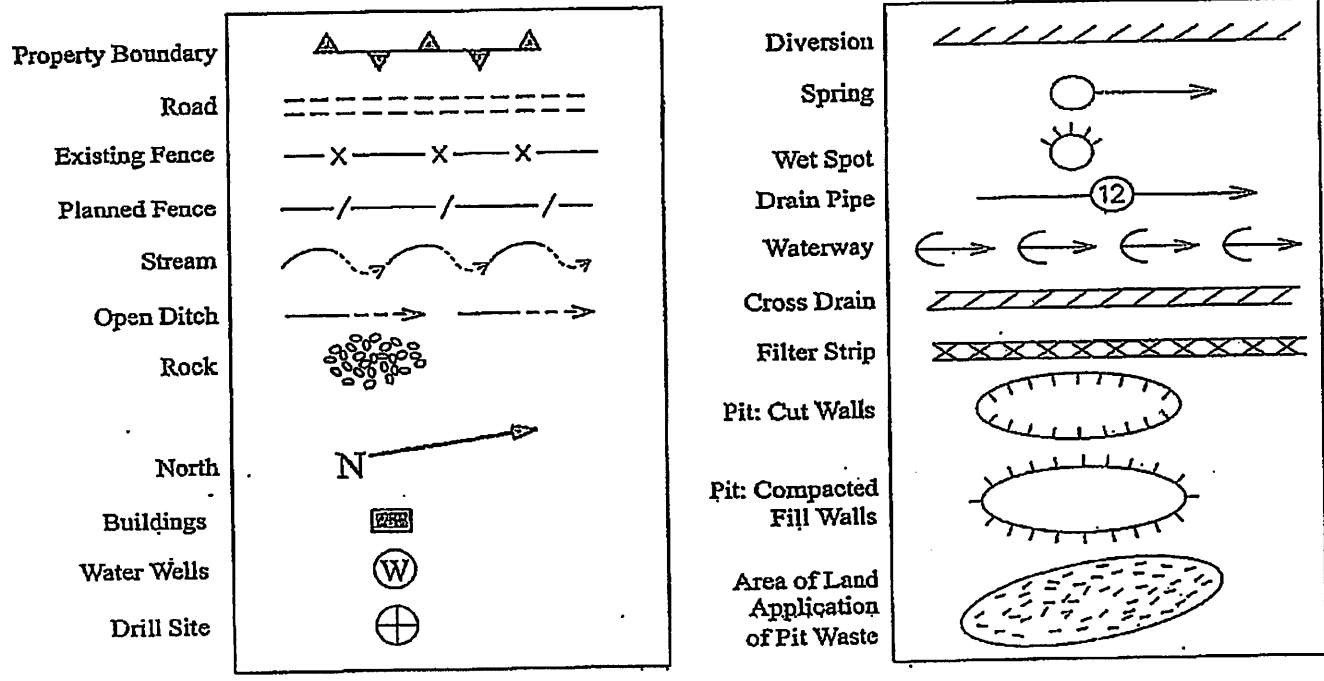
Tina L Petzel Notary Public

My commission expires Nov 12, 2013



10/25/2013

Legend



Proposed Revegetation Treatment: Acres Disturbed Area I Approx. 0.3 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

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

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

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

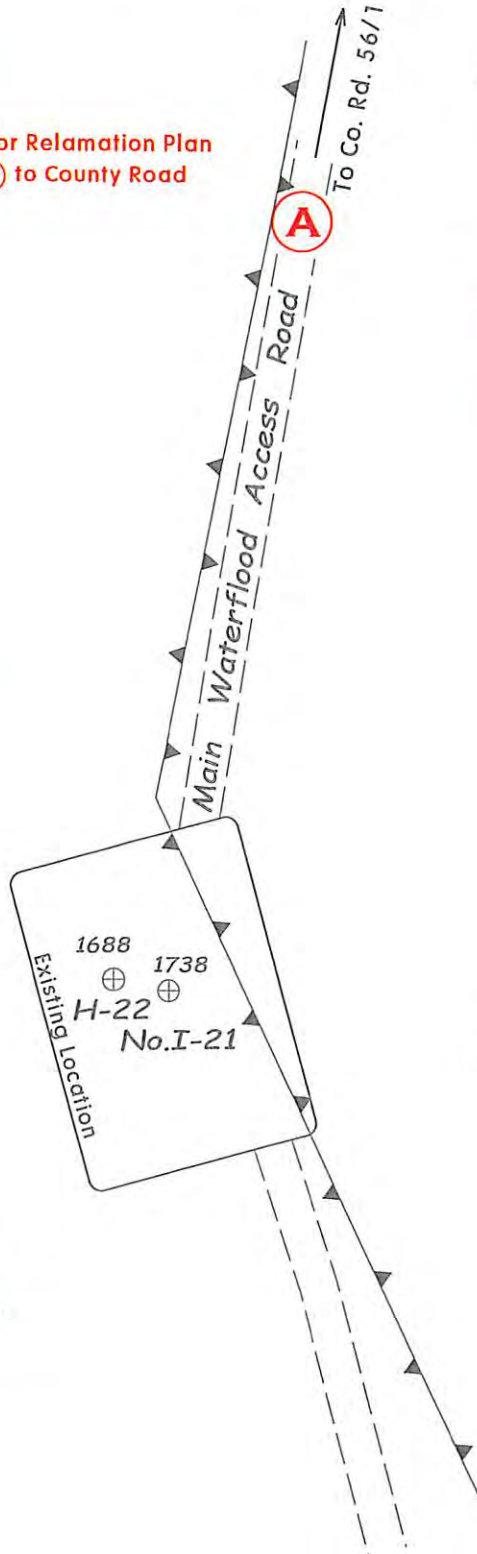
Plan approved by: [Signature]
 Comments: _____

Title: Oil + Gas Inspector Date: 8-19-13

Field Reviewed? Yes No



See Page 2 for Reclamation Plan
From Pt. **A** to County Road



Reclamation Plan For: Ephraim Lease No. I-21

47-103-1738

NOTE:

WELL LOCATION WAS BUILT AND RECLAIMED UNDER DRILLING PERMIT No. 47-103-1738. 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. NO WORK-OVER PIT WILL BE REQUIRED FOR PROPOSED WELL WORK.

*John S. Knight
- Surface Owner*

*Theodore Adamerovitch
- Surface Owner*

RECEIVED
Office of Oil and Gas

SEP 20 2013

WV Department of
Environmental Protection

*DmH
8-14-13*

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.

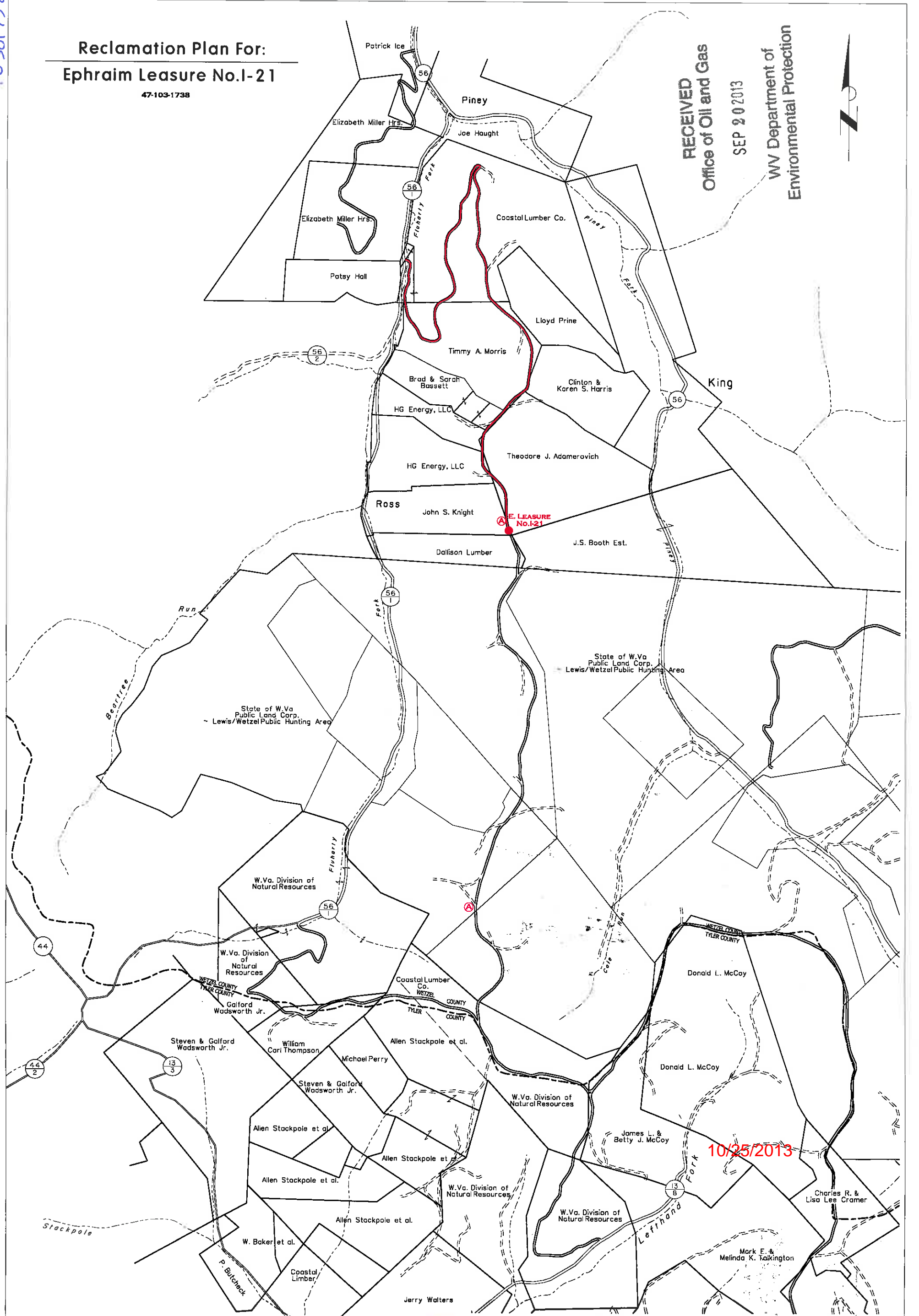
NOTE
REFER TO THE WVDEP
EROSION AND SEDIMENT CONTROL
FIELD MANUAL VER. MAY 2012 FOR
BMPs CONTROLLING EROSION AND
SEDIMENT FROM SOIL-DISTURBING
OPERATIONS.

103017385





Reclamation Plan For: Ephraim Lease No. I-21

47-103-1738

RECEIVED
Office of Oil and Gas
SEP 20 2013
WV Department of
Environmental Protection

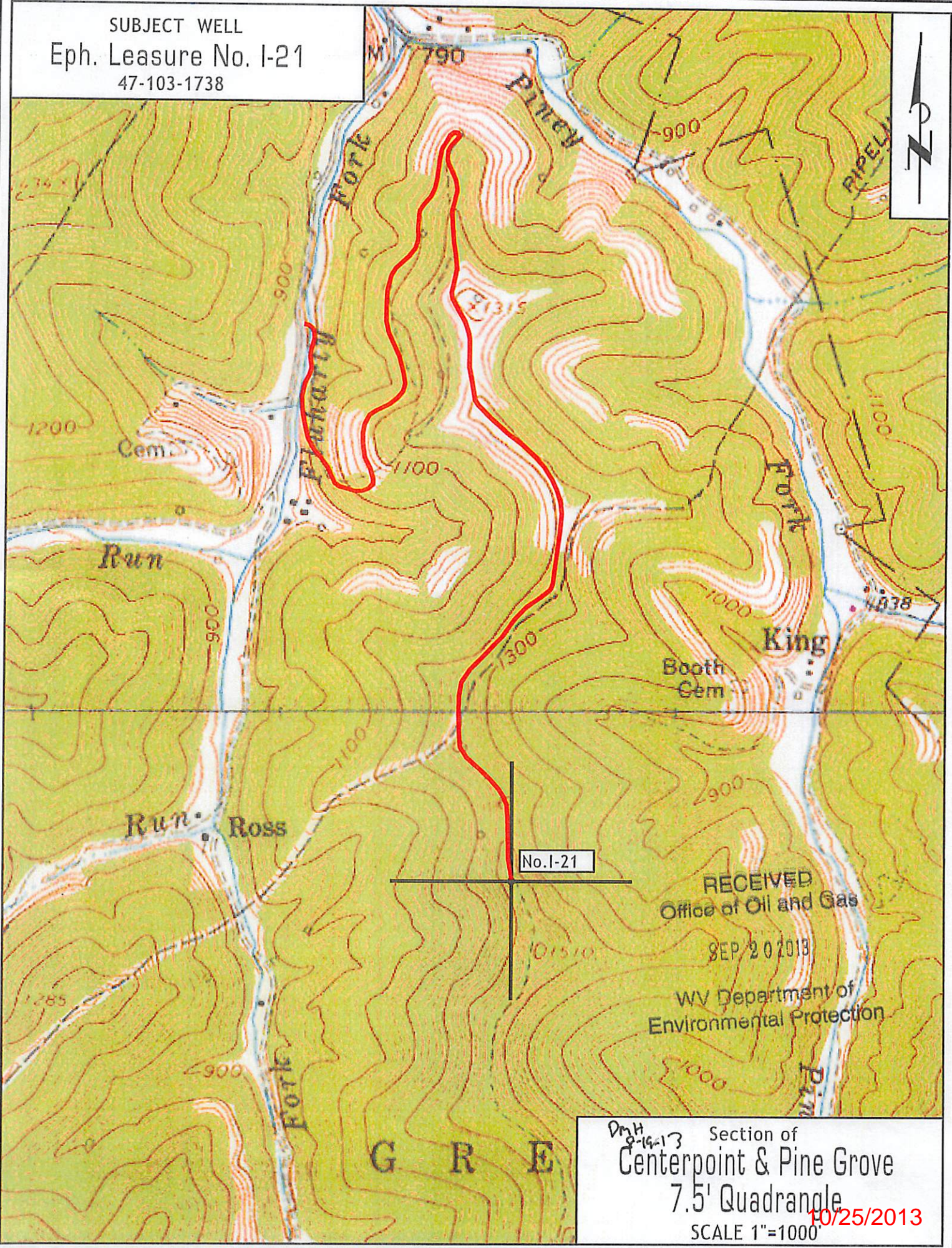


10/25/2013

 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 BMP'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-OOG. SEE PERMITS ON FILE FOR MORE DETAIL.	LEGEND  EXISTING WATERFLOOD ROADS  EXISTING LEASE OR FARM ROADS TO BE UPGRADED  NEW ROADS TO BE CONSTRUCTED
---	---	--	--

10301738S

SUBJECT WELL
Eph. Lease No. I-21
47-103-1738

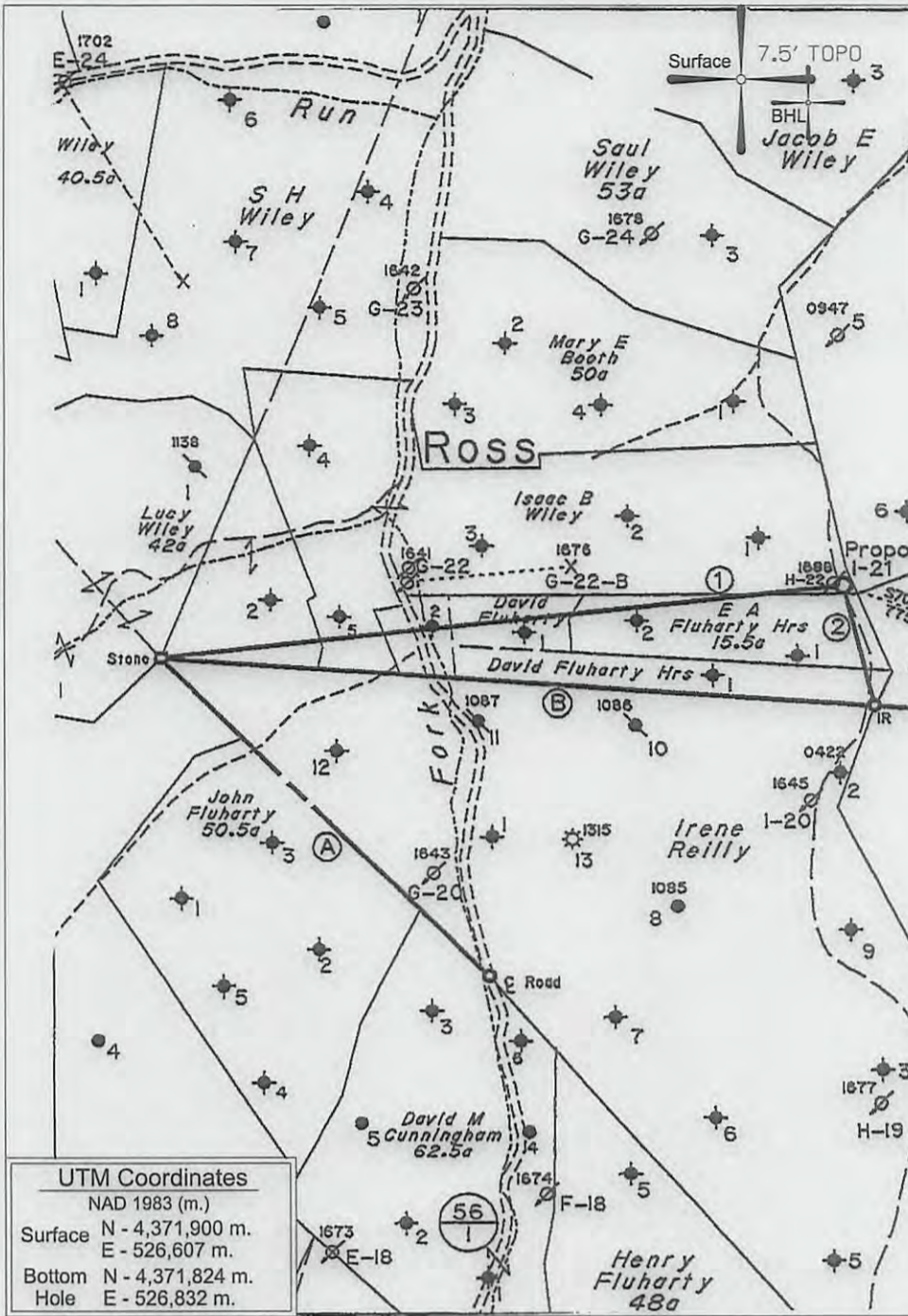


RECEIVED
Office of Oil and Gas
SEP 20 2013
WV Department of
Environmental Protection

DmH
8-19-13 Section of
Centerpoint & Pine Grove
7.5' Quadrangle
SCALE 1"=1000'
10/25/2013

PLAT NOTES

- The drawing shown hereon is from the original drilling permit plat dated 6-3-97.
- 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.)
 Surface N - 4,371,900 m.
 E - 526,607 m.
 Bottom N - 4,371,824 m.
 Hole E - 526,832 m.

CALL TABLE

(A)	N41° 30'W	2584'
(B)	S86° 13'E	3910.5'
(C)	S86° 13'E	5307.0'

WELL TIES

(1)	N83° 48'E	3753'
(2)	N14° 30'W	685'

LOCATION REFERENCES

— 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 7, 2013
 FARM Eph. Leasure No. 1-21
 API WELL NO. 47-103-017385

WELL TYPE: OIL ___ GAS ___ LIQUID INJECTION WASTE DISPOSAL ___
 (IF "GAS") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW ___
 LOCATION: ELEVATION 1,439' WATERSHED Fluharty Fork
 DISTRICT Green COUNTY Wetzel
 QUADRANGLE Centerpoint 7.5'
 SURFACE OWNER John Knight et al ACREAGE 65 Ac.
 OIL & GAS ROYALTY OWNER HG Energy LLC et al LEASE ACREAGE 101 Ac. **10/25/2013**
 LEASE NO. Fee 2837-00
 PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Convert To Liquid Injection
 PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
 TARGET FORMATION Gordon ESTIMATED DEPTH 3,578' MD
 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

CK# 2341
\$550.00

August 9, 2013

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

RE: Ephraim Lease No. I-21 (API 47-103-1738)
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 convert the above-captioned shallow, producing well to an injection well. Our check in the amount of \$550 is attached.

If you have any questions regarding this application, please call me at 304-420-1119.

Very truly yours,

Diane C White

Diane C. White

Enclosures

cc: John & Bonnie Knight – Certified
John & Stanley Pittman – Certified
Derek Haught - Inspector

RECEIVED
Office of Oil and Gas

SEP 20 2013

WV Department of
Environmental Protection