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**west virginia** department of environmental protection

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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

February 11, 2014

**WELL WORK PERMIT**

**Rework-Secondary Recovery**

This permit, API Well Number: 47-3304878, 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: HIRAM LYNCH NO. 106  
Farm Name: TURNER, DAVID & SANDRA  
**API Well Number: 47-3304878**  
**Permit Type: Rework-Secondary Recovery**  
Date Issued: 02/11/2014

# 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

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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.





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

Well Operator's Report of Well Work

COPY

Farm name: TURNER, DAVID & SANDRA

Operator Well No.: HIRAM LYNCH 106

LOCATION: Elevation: 1.118'

Quadrangle: WOLF SUMMIT 7.5'

District: TEN MILE  
Latitude: 4,325 Feet south of  
Longitude: 11,725 Feet west of

County: HARRISON  
39 Deg 18 Min 30 Sec.  
80 Deg 27 Min 30 Sec.

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

Agent: PHILIP S. ONDRUSEK

Inspector: TIM BENNETT

Permit Issued: 08/02/07

Well work Commenced: 02/12/08

Well work Completed: 04/16/07

Verbal plugging permission granted on: \_\_\_\_\_

Rotary X Cable \_\_\_\_\_ Rig \_\_\_\_\_

Total Depth (feet) 2900'

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"	450'	450'	110 sks
4 1/2"	2870.8'	2870.8'	150 sks

OPEN FLOW DATA \* WATERFLOOD INJECTOR

Producing formation Fifth Sand Pay zone depth (ft) 2740'-2751'  
 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 WELL BORE.

For: EAST RESOURCES, INC

By: \_\_\_\_\_

Date: \_\_\_\_\_

*[Signature]*  
4/22/08

Received  
JAN - 8 2014

WV Dept. of Environmental Protection  
Office of Oil and Gas  
02/14/2014

Treatment: Treated perforations, 2740'-2750', w/ 500 gals 15% HCl.

<u>Well Log:</u>		
0	174	Sand and Shale
174	199	Sand
199	215	Shale
215	283	Sand
283	418	Shale
418	427	Sand
427	550	Shale
550	562	Sand
562	1144	Shale
1144	1208	Sand
1208	1508	Shale
1508	1530	Sand
1530	1628	Shale
1628	1647	Sand
1647	1693	Shale
1693	1710	Sand
1710	1726	Shale
1726	1740	Sand
1740	1780	Shale
1780	1870	Big Lime
1870	1916	Big Injun
1916	2334	Shale
2334	2345	Sand
2345	2432	Shale
2432	2450	Sand
2450	2460	Shale
2460	2529	Sand
2529	2538	Shale
2538	2570	Sand
2570	2740	Shale
2740	2751	Fifth Sand
2751	2900	Shale
2900		TD

**Received**  
 JAN - 6 2014  
 Office of Oil and Gas  
 WV Dept. of Environmental Protection

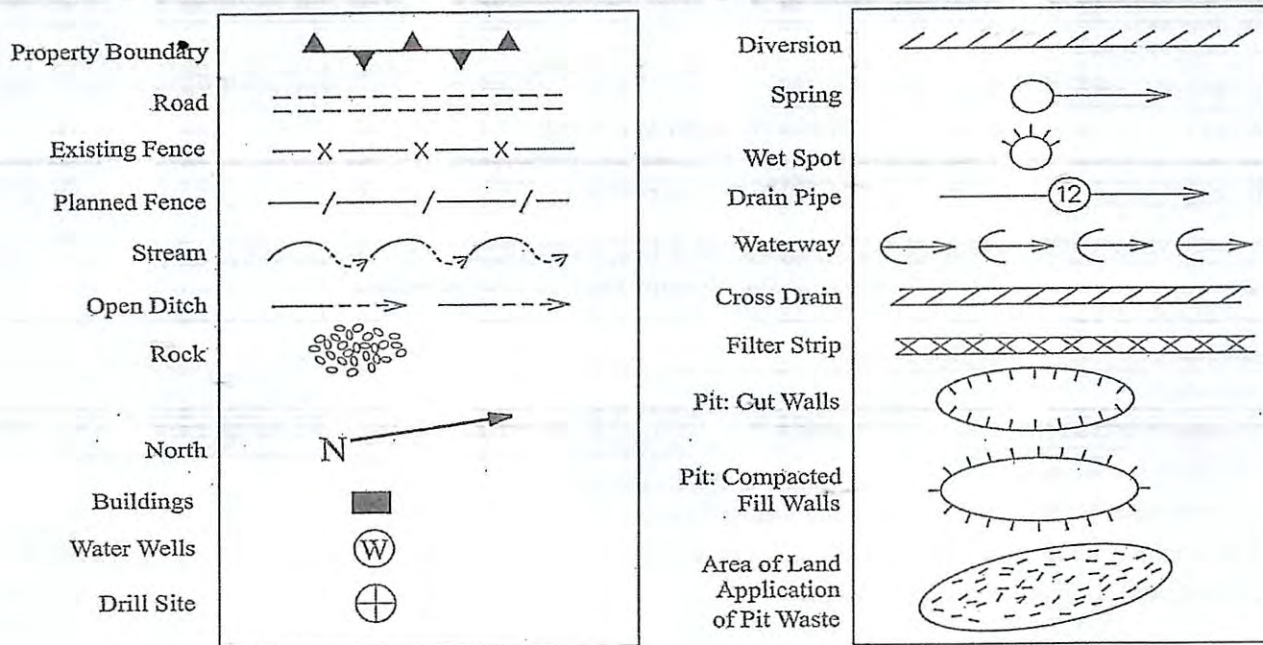








Legend



Area I  
 Proposed Revegetation Treatment: Acres Disturbed                      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

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

Plan approved by:                     S. P. D. Warratt                                         Michael A. Gaff                    

Comments:                     Upgrade ETS as necessary per WU DEP ETS Manual                    

Title:                     Oil & Gas Inspector                     Date:                     12/23/2013                    

Field Reviewed?  Yes  No



# Reclamation Plan For:

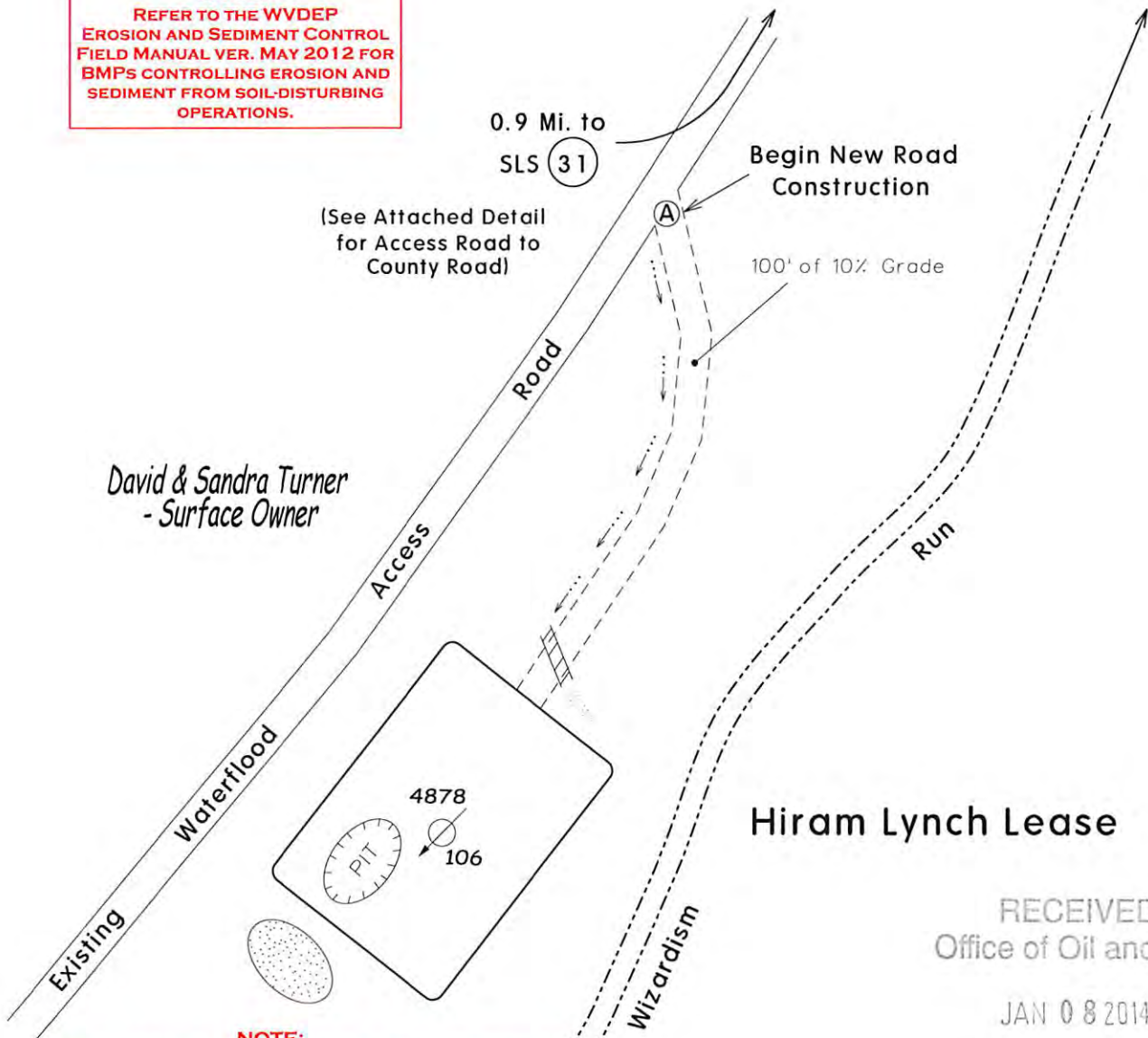
## Hiram Lynch No. 106

47-033-4878

### Frac Permit 12/6/2013



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



David & Sandra Turner  
- Surface Owner

### Hiram Lynch Lease

RECEIVED  
Office of Oil and Gas

JAN 08 2014

WV Department of  
Environmental Protection

**NOTE:**

WELL LOCATION WAS BUILT AND RECLAIMED UNDER DRILLING PERMIT No.47-033-4878. 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.

**Notes:**

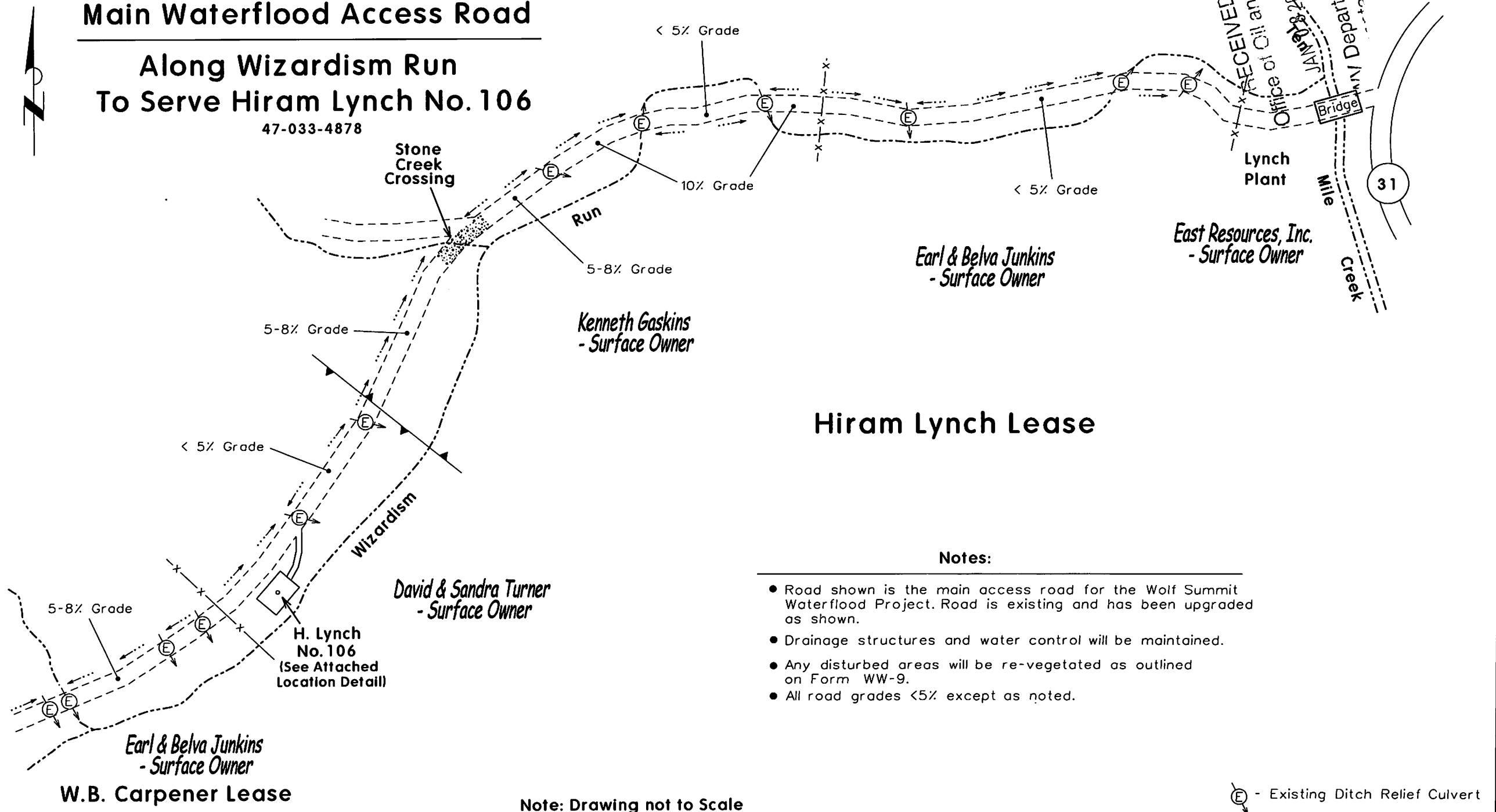
- Requested permit is for stimulation of existing well.
- Access road from Co. Rd. 31 to location is existing. Structures will be maintained.
- All disturbed areas will be re-vegetated as outlined on Form WW-9.
- Maintain sediment barriers and drainage structures.

02/14/2014

Note: Drawing not to Scale

**Detail of:  
Main Waterflood Access Road  
Along Wizardism Run  
To Serve Hiram Lynch No. 106**

47-033-4878



**Hiram Lynch Lease**

**Notes:**

- Road shown is the main access road for the Wolf Summit Waterflood Project. Road is existing and has been upgraded as shown.
- Drainage structures and water control will be maintained.
- Any disturbed areas will be re-vegetated as outlined on Form WW-9.
- All road grades < 5% except as noted.

Note: Drawing not to Scale

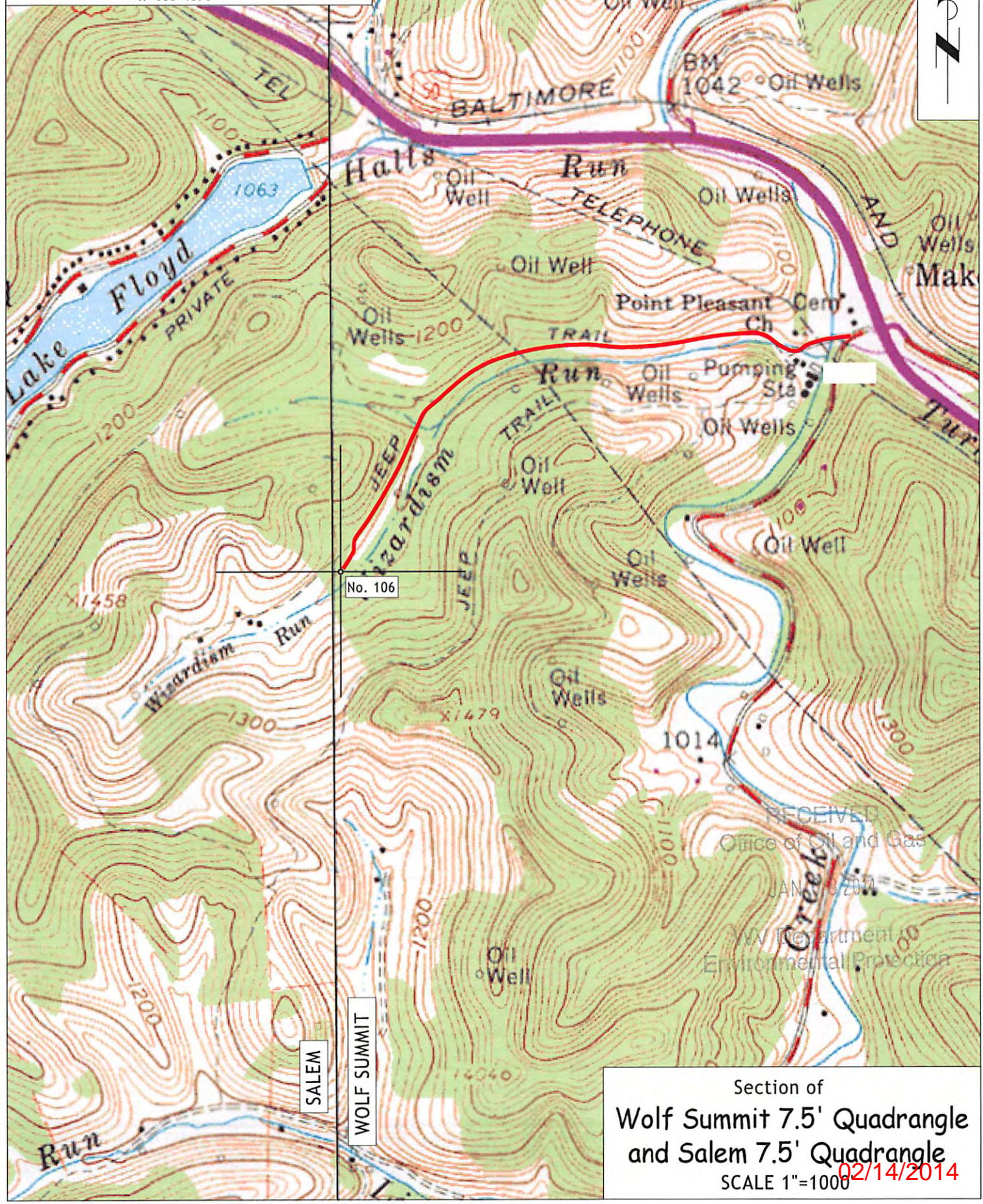
ⓔ - Existing Ditch Relief Culvert

33 048785 R



SUBJECT WELL  
Hiram Lynch No.106

47-033-4878



No. 106

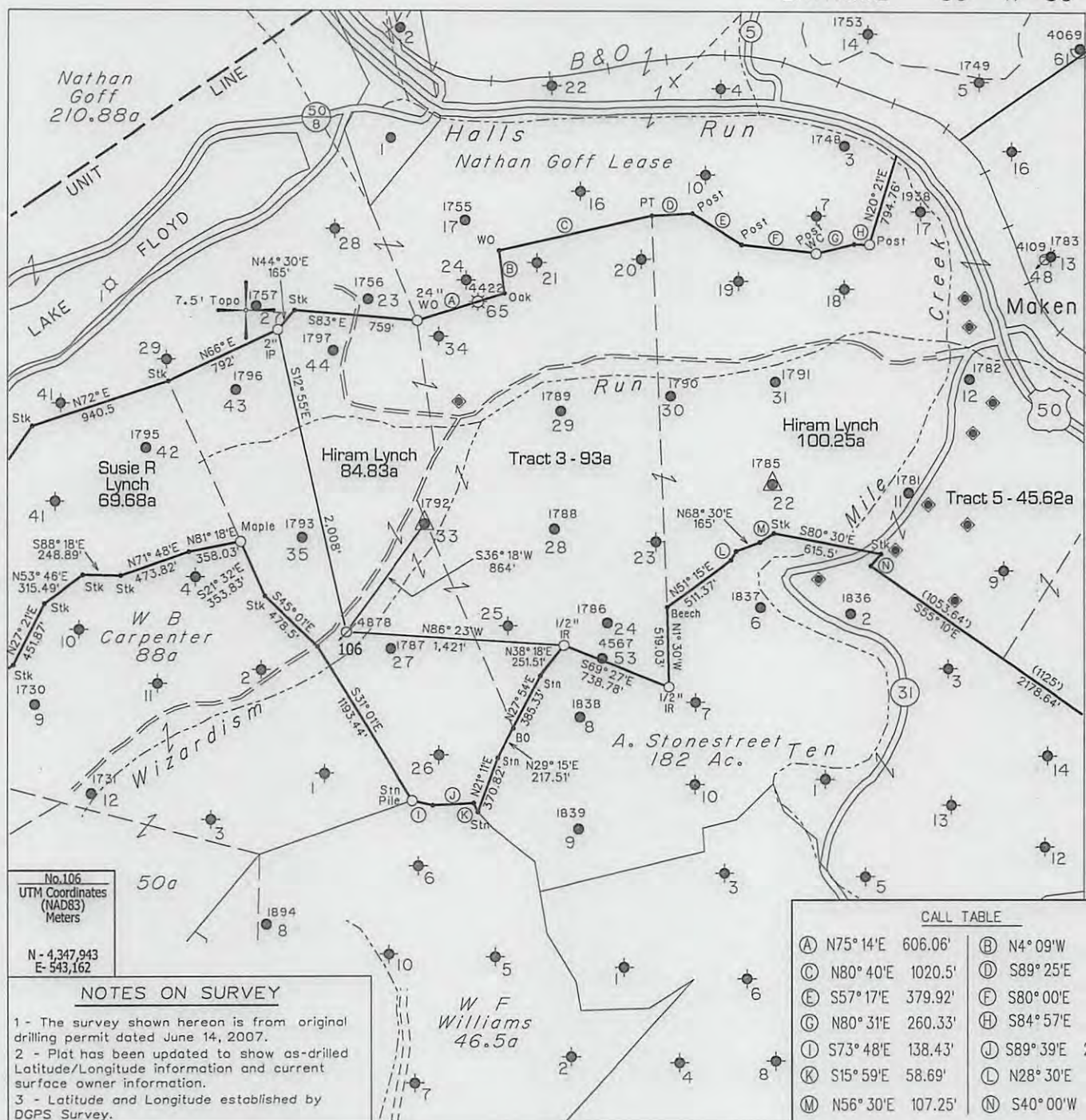
SALEM

WOLF SUMMIT

Section of  
Wolf Summit 7.5' Quadrangle  
and Salem 7.5' Quadrangle  
SCALE 1"=1000  
02/14/2014

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Office of Oil and Gas  
JAN 16 2014  
U.S. Department of  
Environmental Protection





No.106  
UTM Coordinates  
(NAD83)  
Meters  
  
N - 4,347,943  
E - 543,162

**NOTES ON SURVEY**

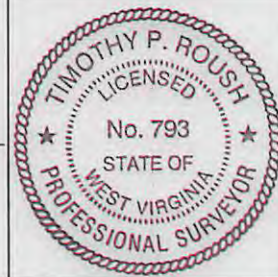
- 1 - The survey shown hereon is from original drilling permit dated June 14, 2007.
- 2 - Plat has been updated to show as-drilled Latitude/Longitude information and current surface owner information.
- 3 - Latitude and Longitude established by DGPS Survey.

⊕ 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 DGPS**  
PROVEN SOURCE OF ELEVATION **DGPS Survey**

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 **December 6, 2013**  
FARM **Hiram Lynch No.106**  
API WELL NO. **47-033-04878 W/S**

WELL TYPE: OIL \_\_\_ GAS \_\_\_ LIQUID INJECTION  WASTE DISPOSAL \_\_\_ CORE \_\_\_  
(IF "GAS") PRODUCTION \_\_\_ STORAGE \_\_\_ DEEP \_\_\_ SHALLOW \_\_\_  
LOCATION: ELEVATION **1,118'** WATERSHED **Wizardism Run**  
DISTRICT **Ten Mile** COUNTY **Harrison**  
QUADRANGLE **Wolf Summit 7.5'**

SURFACE OWNER **David & Sandra Turner** ACREAGE **52.17 Ac.**  
OIL & GAS ROYALTY OWNER **Anne Farr et al.** LEASE ACREAGE **568 Ac. 02/14/2014**  
LEASE NO. **31378-50**

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 **Fifth Sand** ESTIMATED DEPTH **2,900'**  
WELL OPERATOR **HG Energy LLC.** DESIGNATED AGENT **Mike Kirsch**  
ADDRESS **5260 DuPont Road Parkersburg, WV 26101** ADDRESS **5260 DuPont Road Parkersburg, WV 26101**