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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

November 05, 2013


**WELL WORK PERMIT**  
**Rework-Secondary Recovery**

This permit, API Well Number: 47-3304879, 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 109  
Farm Name: JUNKINS, EARL & BELVA  
**API Well Number: 47-3304879**  
**Permit Type: Rework-Secondary Recovery**  
Date Issued: 11/05/2013

**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

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1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. 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.
3. Well work activities shall not constitute a hazard to the safety of persons.







3704879 R2

08/02/2007

API # 47 33 4879

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

COPY

Well Operator's Report of Well Work

Farm name: JUNKINS, EARL & BELVA

Operator Well No.: HIRAM LYNCH 109

LOCATION: Elevation: 1,053'

Quadrangle: WOLF SUMMIT 7.5'

District: TEN MILE  
Latitude: 2,525 Feet south of  
Longitude: 9,150 Feet west of

County: HARRISON  
39 Deg 17 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: 01/15/08

Well work Completed: 04/10/08

Verbal plugging permission granted on:

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

Total Depth (feet) 2810'

Fresh water depths (ft) NA

Salt water depths (ft) 1700

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"	386'	386'	95 sks
4 1/2"	2737.8'	2737.8'	150 sks

OPEN FLOW DATA

\* WATERFLOOD INJECTOR

Producing formation Fifth Sand Pay zone depth (ft) 2645-2660

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.

For: EAST RESOURCES, INC.

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

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

*Roger Walden*  
4/16/08

Treatment :

Treated perforations (2646'-2659') w/ 500 gals.15% HCl.

Well Log :

0	140	Sand and Shale
140	160	Sand
160	294	Shale
294	305	Sand
305	618	Shale
618	640	Sand
640	752	Shale
752	772	Sand
772	821	Shale
821	836	Sand
836	844	Shale
844	862	Sand
862	927	Shale
927	953	Sand
953	1022	Shale
1022	1096	Sand
1096	1114	Shale
1114	1126	Sand
1126	1286	Shale
1286	1312	Sand
1312	1324	Shale
1324	1342	Sand
1342	1596	Shale
1596	1612	Sand
1612	1628	Shale
1628	1644	Sand
1644	1678	Shale
1678	1750	Big Lime
1750	1810	Big Injun
1810	2232	Shale
2232	2250	Sand
2250	2338	Shale
2338	2347	Sand
2347	2384	Shale
2384	2436	Sand
2436	2446	Shale
2446	2480	Sand
2480	2645	Shale
2645	2660	Fifth Sand
2660	2810	Shale
2810		TD





WW-2B1

Well No. Hiram Lynch No. 109

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.**

RECEIVED  
Office of Oil and Gas  
OCT 07 2013  
WV Department of  
Environmental Protection

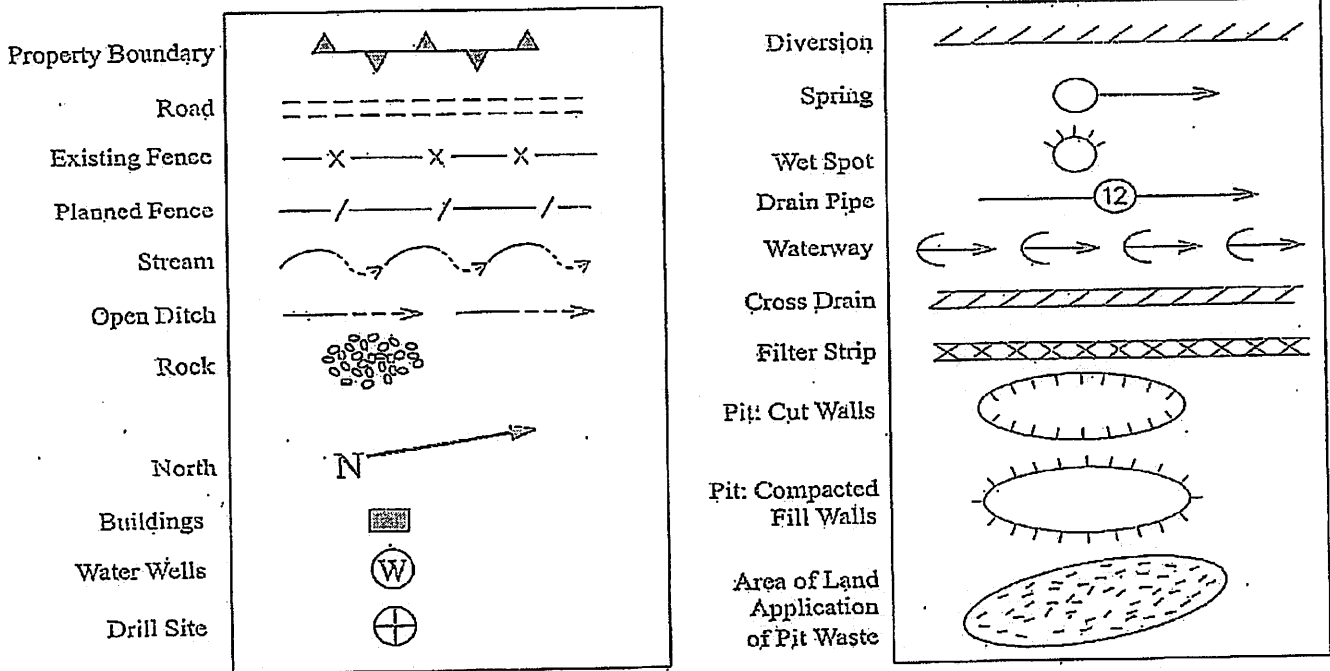






W/M/9-Bark

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>		<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

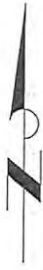
Attach:  
 Drawing(s) of road, location, pit and proposed area for land application  
 Photocopied section of involved 7.5' topographic sheet.

Plan approved by: S. J. O'Ward  
 Comments: \_\_\_\_\_

Title: Oil & Gas Inspector Date: 10/2/2013

Field Reviewed? ( ) Yes (X) No

330487965



# Reclamation Plan For:

## Hiram Lynch No. 109

(47-033-4879)

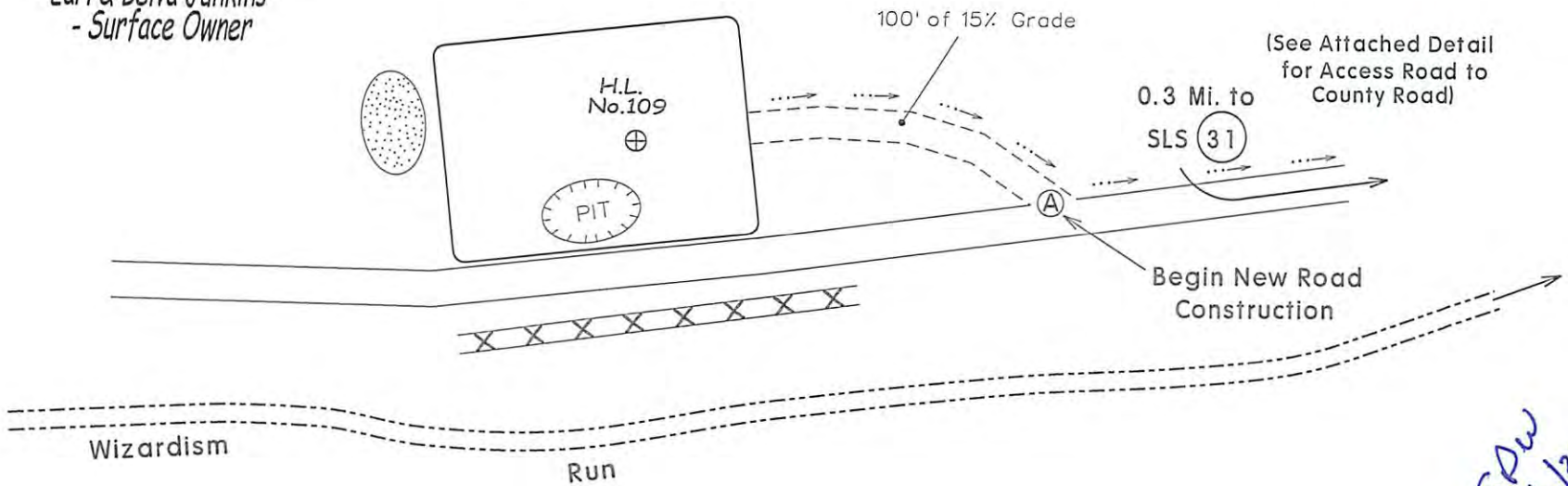
Frac Permit 9/3/2013

**NOTE:**  
WELL LOCATION WAS BUILT AND RECLAIMED UNDER DRILLING PERMIT No.47-033-4879. 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.

REGULATED Gas  
Office of  
DC  
WV DEPARTMENT of  
Environment & Protection

### Hiram Lynch Lease

Earl & Belva Junkins  
- Surface Owner



SPW  
6/2/2013

#### Notes:

- Requested permit is for drilling of new wells.
- Access road from Co. Rd. 31 to Pt. (A) 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 drill pit may be changed based on as-built considerations.

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

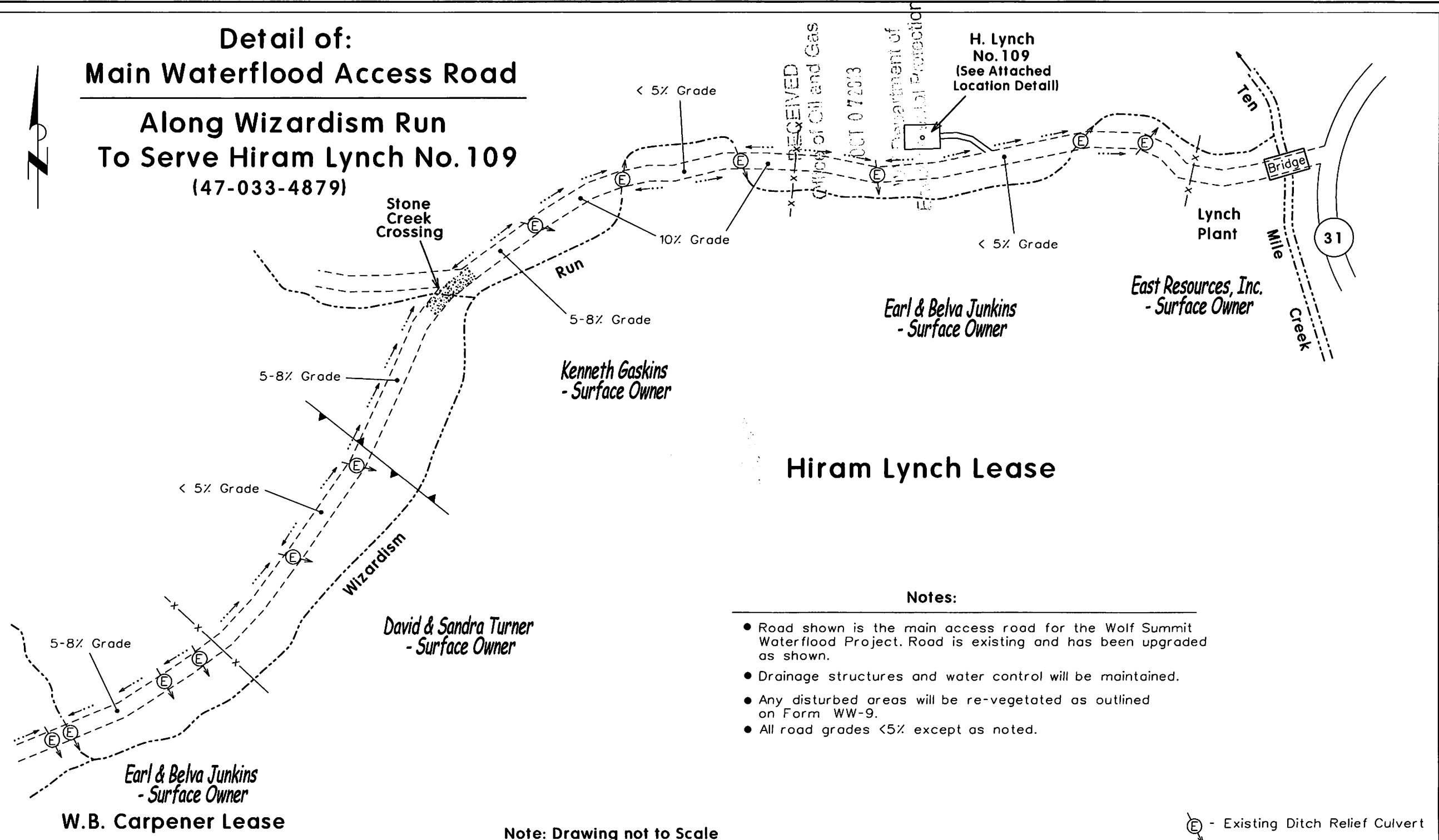
Note: Drawing not to Scale



3304879 R3

# Detail of: Main Waterflood Access Road

## Along Wizardism Run To Serve Hiram Lynch No. 109 (47-033-4879)



W.B. Carpener Lease

Earl & Belva Junkins  
- Surface Owner

David & Sandra Turner  
- Surface Owner

Kenneth Gaskins  
- Surface Owner

Earl & Belva Junkins  
- Surface Owner

East Resources, Inc.  
- Surface Owner

H. Lynch  
No. 109  
(See Attached  
Location Detail)

### Hiram Lynch Lease

#### Notes:

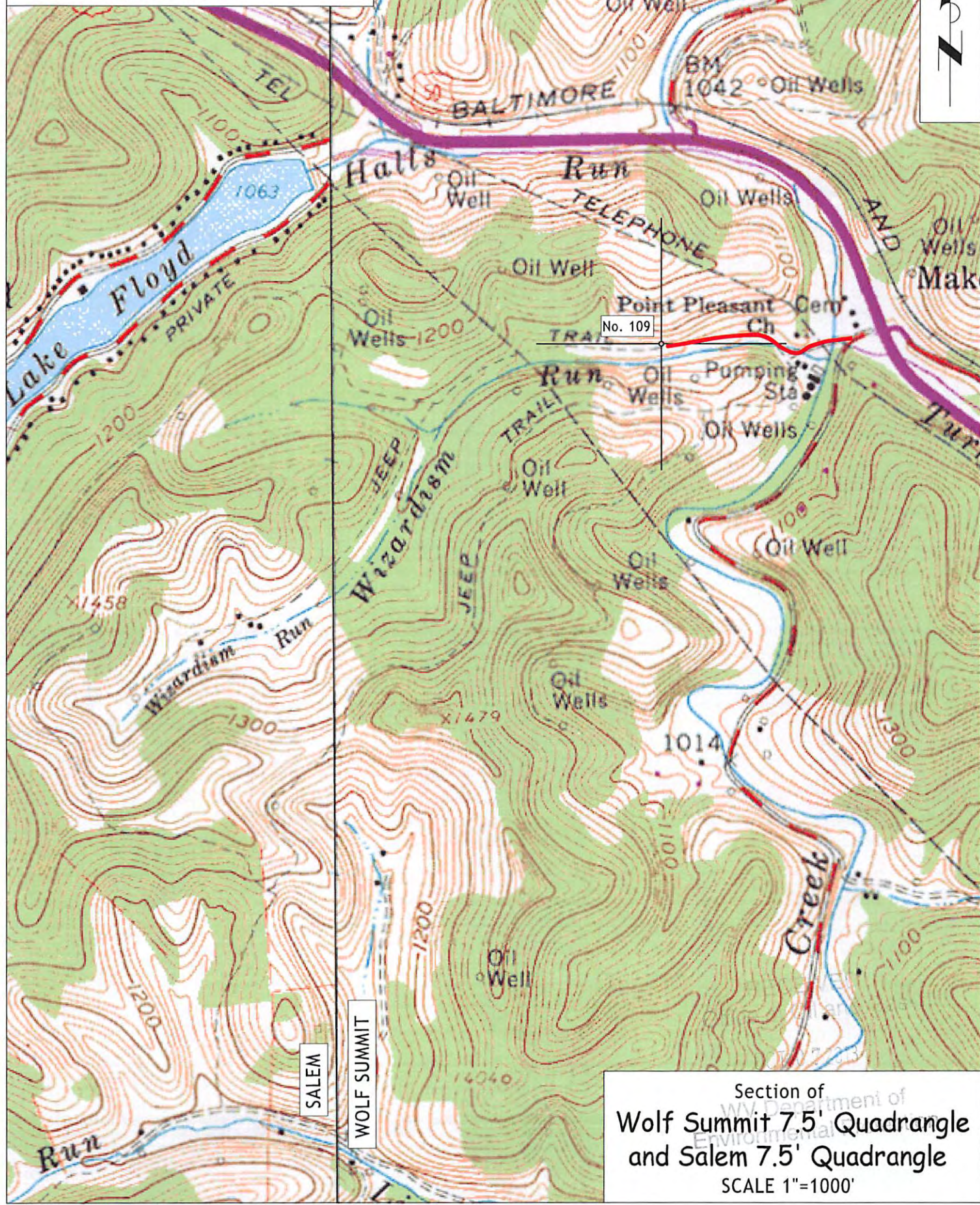
- Road shown is the main access road for the Wolf Summit Waterflood Project. Road is existing and has been upgraded as shown.
- Drainage structures and water control will be maintained.
- Any disturbed areas will be re-vegetated as outlined on Form WW-9.
- All road grades <5% except as noted.

Note: Drawing not to Scale

(E) - Existing Ditch Relief Culvert

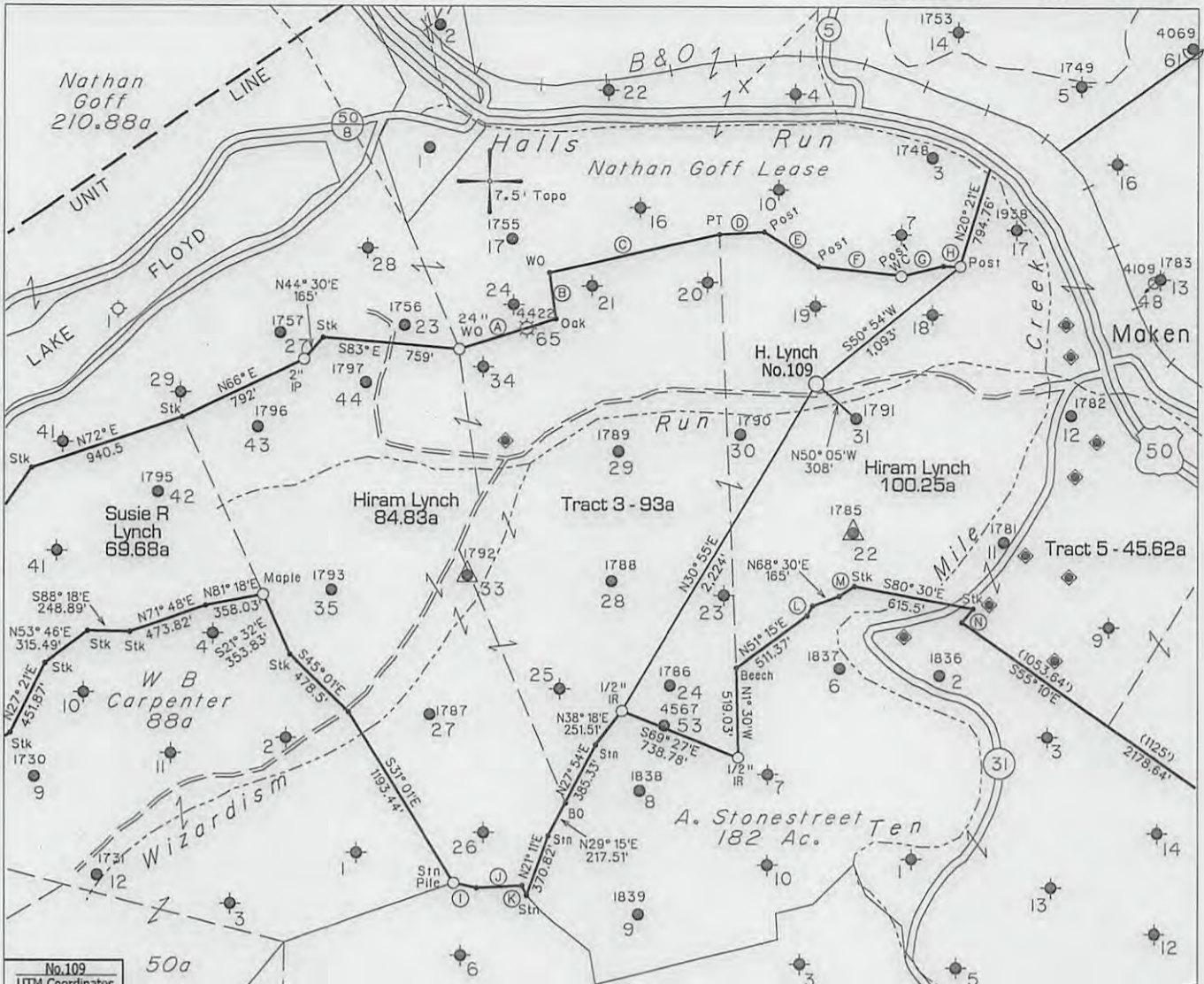


SUBJECT WELL  
Hiram Lynch No.109  
47-033-04879



Section of  
Wolf Summit 7.5' Quadrangle  
and Salem 7.5' Quadrangle  
SCALE 1"=1000'





No. 109  
UTM Coordinates  
(NAD83)  
Meters  
  
N - 4,348,508  
E - 543,948

NOTES ON SURVEY

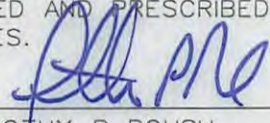
- 1 - The survey shown hereon is from original drilling permit dated June 14, 2007.
- 2 - Plat has been updated to show as-drilled Latitude/Longitude information and current surface owner information.
- 3 - Latitude and Longitude established by DGPS Survey.

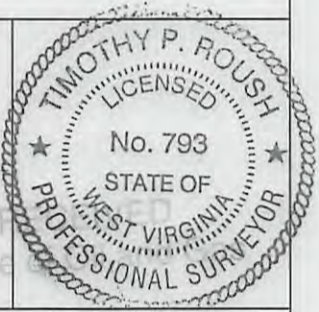
CALL TABLE	
(A) N75° 14'E 606.06'	(B) N4° 09'W 375.89'
(C) N80° 40'E 1020.5'	(D) S89° 25'E 264.00'
(E) S57° 17'E 379.92'	(F) S80° 00'E 483.21'
(G) N80° 31'E 260.33'	(H) S84° 57'E 98.02'
(I) S73° 48'E 138.43'	(J) S89° 39'E 266.94'
(K) S15° 59'E 58.69'	(L) N28° 30'E 66.00'
(M) N56° 30'E 107.25'	(N) S40° 00'W 99.00'

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

FILE NO. \_\_\_\_\_  
 MAP NO. N29 N S12 E 7 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)   
 TIMOTHY P. ROUSH PS 793



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



DATE April 10, 2012  
 FARM Hiram Lynch No.109  
 API WELL NO. 47-033-04879 Rs

WELL TYPE: OIL \_\_\_ GAS \_\_\_ LIQUID INJECTION  WASTE DISPOSAL \_\_\_ CORE \_\_\_  
 (IF "GAS") PRODUCTION \_\_\_ STORAGE \_\_\_ DEEP \_\_\_ SHALLOW \_\_\_  
 LOCATION: ELEVATION 1,058' WATERSHED Wizardism Run  
 DISTRICT Ten Mile COUNTY Harrison  
 QUADRANGLE Wolf Summit 7.5'  
 SURFACE OWNER Earl & Belva Junkins ACREAGE 89.94 Ac.  
 OIL & GAS ROYALTY OWNER Anne Farr et al. LEASE ACREAGE 568 Ac.  
 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 2,760'  
 WELL OPERATOR HG Energy LLC. DESIGNATED AGENT Mike Kirsch  
 ADDRESS 5260 DuPont Road Parkersburg, WV 26101 ADDRESS 5260 DuPont Road Parkersburg, WV 26101





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

✓ # 2385  
\$650.00

September 16, 2013

Mr. Jeff McLaughlin  
Division of Oil & Gas  
601 57<sup>th</sup> Street  
Charleston, West Virginia 25304

RE: Hiram Lynch No. 109 (47-033-4879)  
Tenmile District, Harrison County  
West Virginia

Dear Mr. McLaughlin:

Enclosed are Forms WW-3A, WW-3B, WW-9, Mylar of plat, reclamation plan, topo map and copies of the certified mailing receipts for a permit to stimulate the above-captioned liquid injection well. Also enclosed is our check in the amount of \$650.00 to cover the associated permit fees.

Very truly yours,

*Diane C. White*

Diane C. White

Enclosures

cc: Earl & Belva Junkins - Certified  
Wolf Run Mining - Certified  
Sam Ward - Inspector

RECEIVED  
Office of Oil and Gas

OCT 07 2013

WV Department of  
Environmental Protection