



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

August 29, 2013

WELL WORK PERMIT
Secondary Recovery Well

This permit, API Well Number: 47-10302812, 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: MCCOY HEIRS 17
Farm Name: WAYNE, ROBERTA B.
API Well Number: 47-10302812
Permit Type: Secondary Recovery Well
Date Issued: 08/29/2013

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.

**State of West Virginia
Division of Environmental Protection
Section of Oil and Gas
Well Operator's Report of Well Work**

Farm name: WAYNE, ROBERTA B. Operator Well No.: MCCOY HEIRS 17
 LOCATION: Elevation: 810' Quadrangle: PINE GROVE 7.5'
 District: GREEN County: WETZEL
 Latitude: 11,005 Feet south of 39 Deg 32 Min 30 Sec.
 Longitude: 5,160 Feet west of 80 Deg 40 Min 0 Sec.

Company Address:	HG Energy 5260 DuPont Road Parkersburg, WV 26101	Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Inspector:	Derek Haught	9 5/8"	32'	32'	
Date Permit Issued:	08/31/2012				
Date Well Work Commenced:	10/24/2012				
Date Well Work Completed:	11/07/2012				
Verbal Plugging:		7"	805'	805'	175 sks
Date Permission Granted On:					
Rotary X Cable Rig					
Total vertical Depth (ft):	2883'				
Total Measured Depth (ft):	3132'	4 1/2"	3052.8'	3052.8'	250 sks
Fresh Water Depth (ft):	50', 120'				
Salt Water Depth (ft):	None				
Is Coal being mined in ares (Y/N)?	No				
Coal Depths (ft): x	546'-554'				
Void(s) encountered (Y/N) depth(s):	NONE				

OPEN FLOW DATA

* Waterflood Producer

This well drilled directionally 294° NW a distance of 802'. 2870'-2883'

Producing formation Gordon Pay zone depth (ft) 2898'-2905'

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

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the 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.

[Signature]
Signature

3/7/13
Date

Received
JUL 30 2013

Were core samples taken? No Were cuttings caught during drilling? No

Were Y Electrical, N Mechanical, N or Geophysical logs recorded on this well? Y/N Y/N Y/N

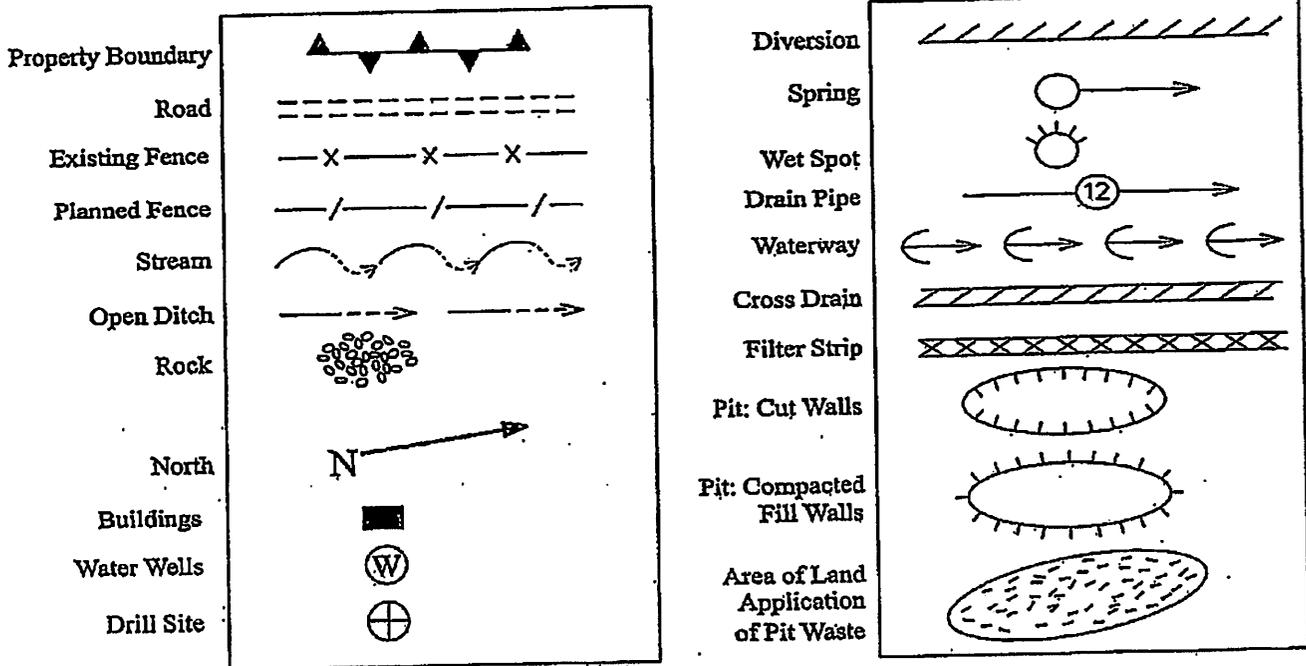
NOTE: IN THE AREA BELOW PU1 THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Treatment : Treated perms 2870'-2883', and 2898'-2905' w/ 1250 gals 15% HCL, 379 bbls cross linked gel, and 20,000# 20/40 sand.

Well Log : All depths are measured relative to KB (8' AGL).

Table with 3 columns: Lithology, Depth (ft), and Reference (KB). Rows include Shale w/ sand streaks, Coal, Sand, shale, sand, Big Lime, Big Injun, Gordon stray, Gordon, and TD. Includes T.D. -Logger and T.D. -Driller at the bottom.

Legend



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

Area II
Approx. 0.5 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.

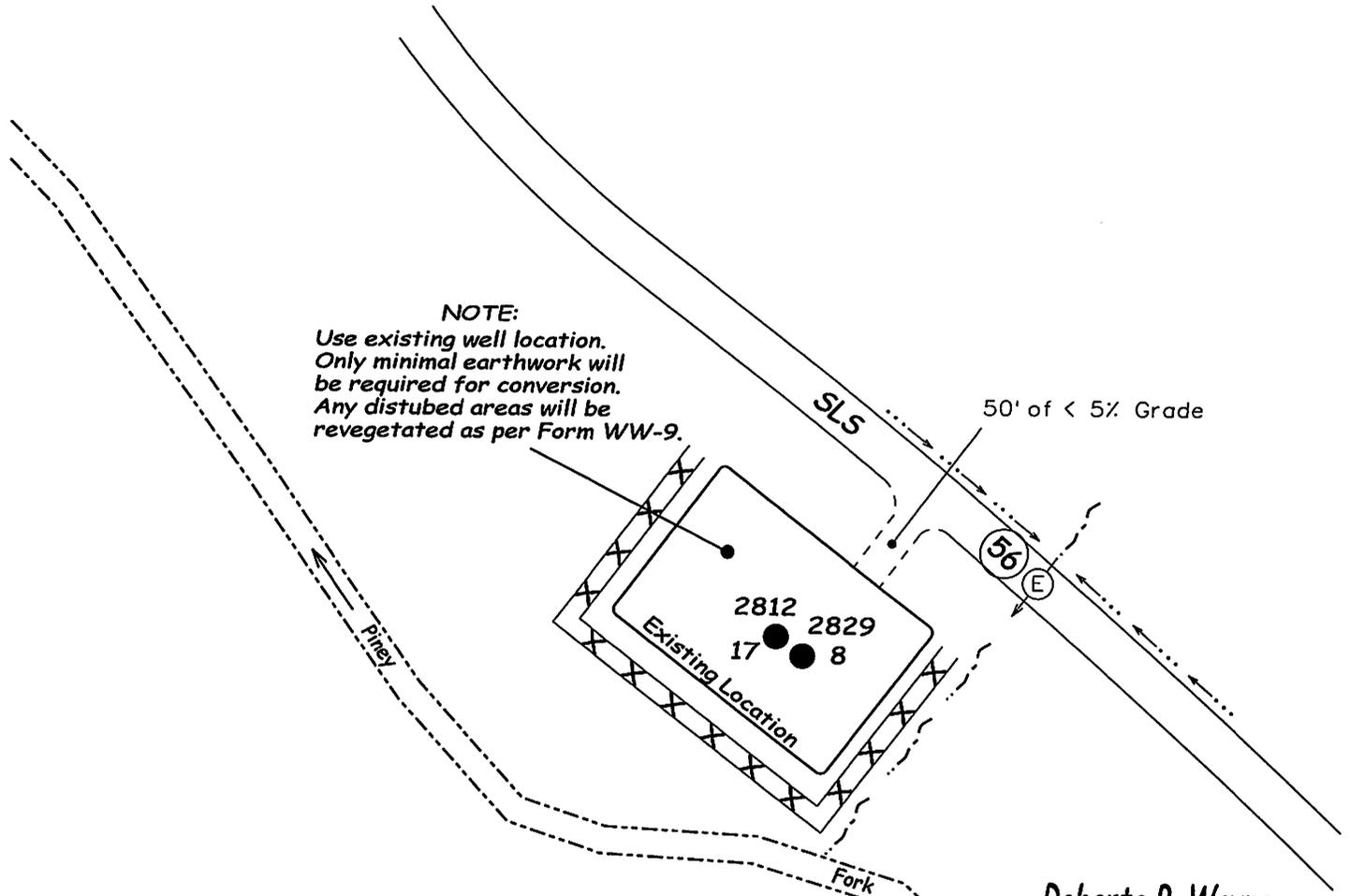
Plan approved by: [Signature]
 Comments: _____

Title: Dr. [Signature] Inspector Date: 7-25-13
 Field Reviewed? () Yes () No

Reclamation Plan For:

McCoy Heirs No. 17 47-103-2812

NOTE:
Use existing well location.
Only minimal earthwork will
be required for conversion.
Any disturbed areas will be
revegetated as per Form WW-9.



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

Roberta B. Wayne
- Surface Owner

Received

JUL 30 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

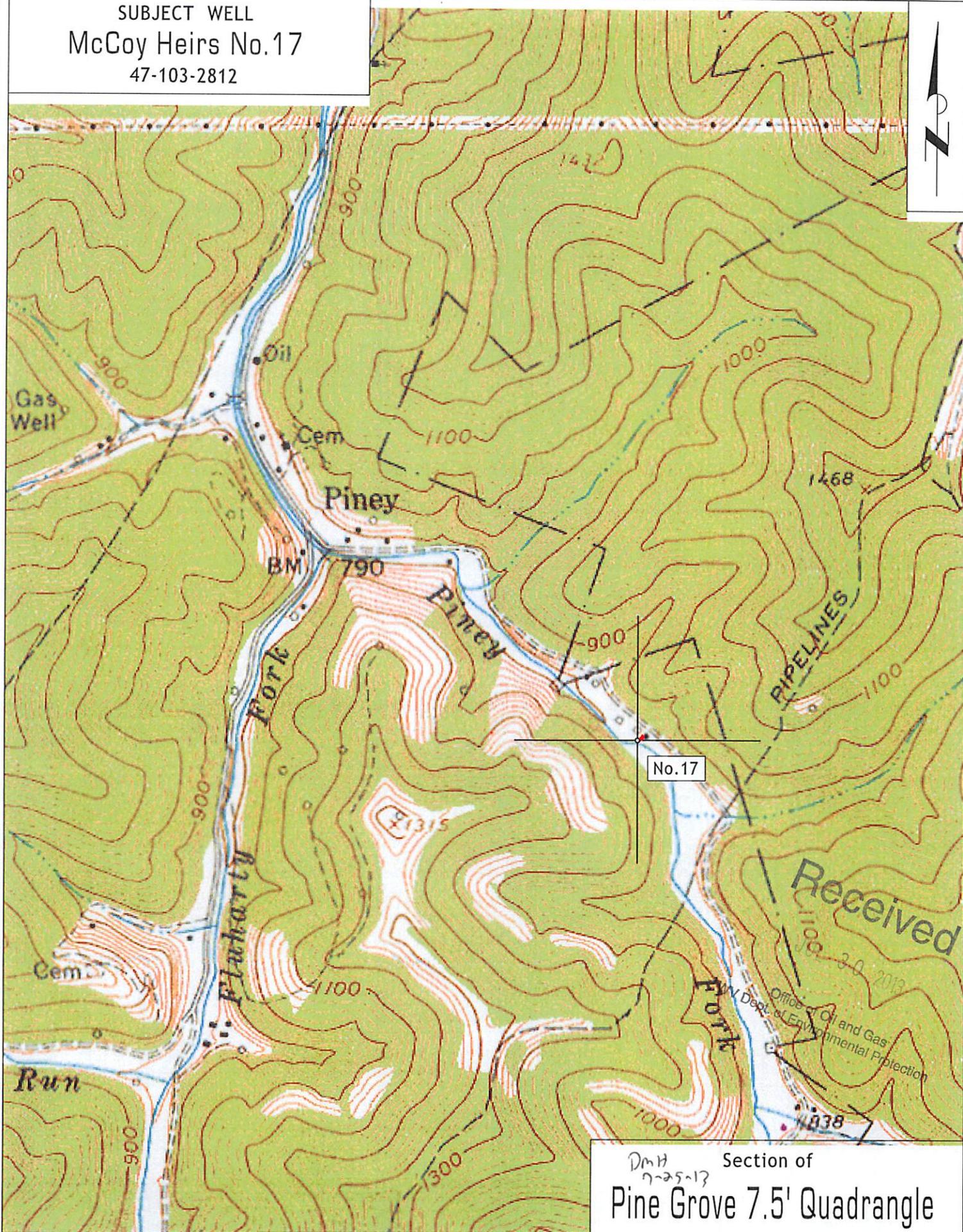
DmH
7-25-13

Notes:

- Requested permit is for conversion of existing well.
- 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.
- No pit will be constructed for requested well work.

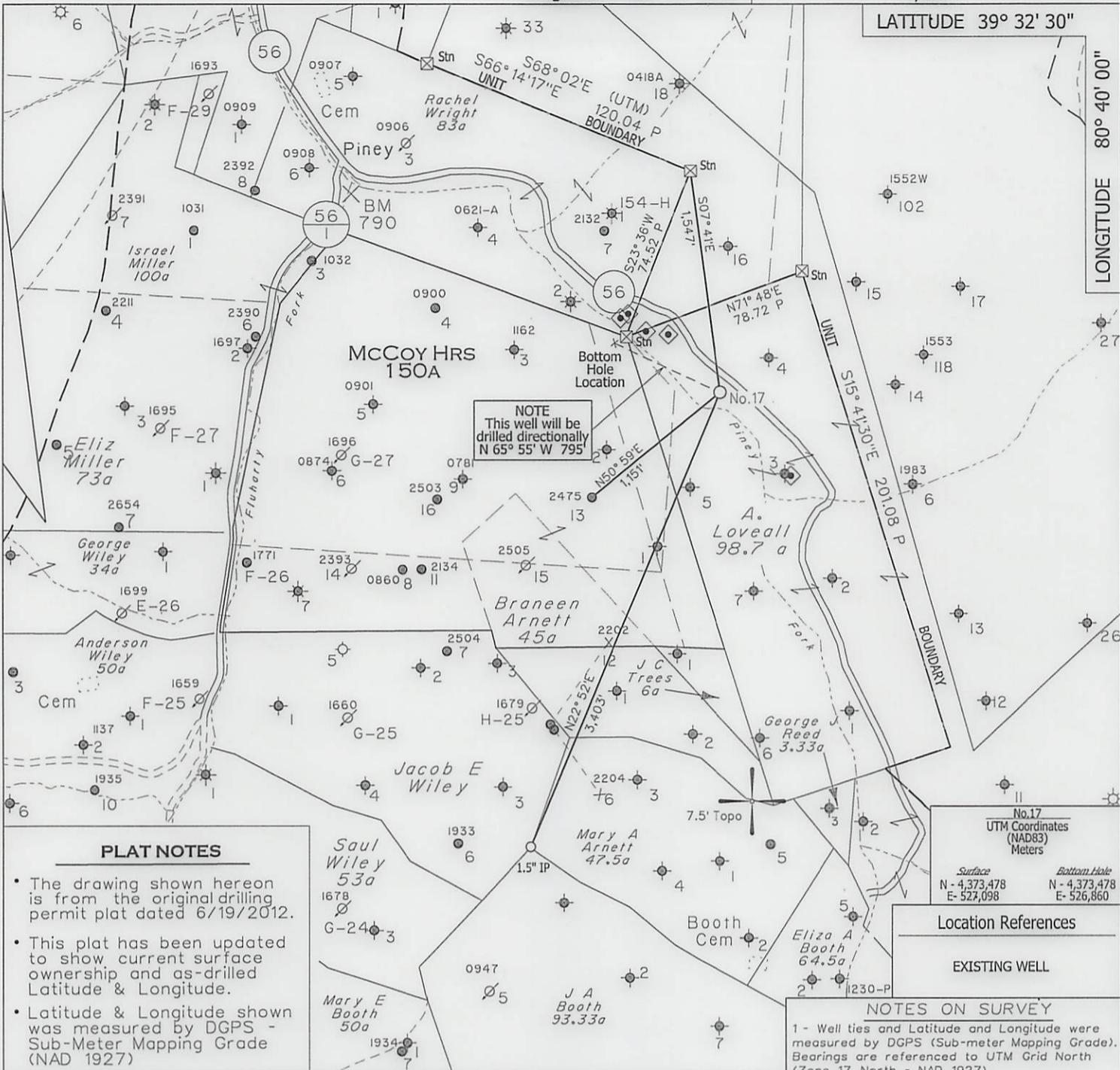
Note: Drawing not to Scale

SUBJECT WELL
McCoy Heirs No.17
47-103-2812



DMH
7-25-13 Section of
Pine Grove 7.5' Quadrangle

SCALE 1"=1000'



PLAT NOTES

- The drawing shown hereon is from the original drilling permit plat dated 6/19/2012.
- 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)

- ◆ - DENOTES A POSSIBLE WATER SUPPLY SOURCE LOCATED FROM CIRCA 2003 AERIAL PHOTOGRAPHY - NOT BY SURVEY. OTHER SOURCES MAY BE PRESENT.
- ⊕ - DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

No.17 UTM Coordinates (NAD83) Meters	
Surface	Bottom Hole
N - 4,373,478	N - 4,373,478
E - 527,098	E - 526,860

Location References

EXISTING WELL

NOTES ON SURVEY

- 1 - Well ties and Latitude and Longitude were measured by DGPS (Sub-meter Mapping Grade). Bearings are referenced to UTM Grid North (Zone 17 North - NAD 1927).
- 2 - Unit Boundary description from survey of the John Mills property by H.M. Stansberry, PE of Sistersville, WV (1907-08).
- 3 - Surface owner information obtained from the Wetzel County Assessor's tax records.

FILE NO. 1046-46
 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) *Timothy P. Roush*
 TIMOTHY P. ROUSH PS 793



WEST VIRGINIA
 Division of Environmental Protection
 Office of Oil and Gas
 601 57th Street
 Charleston, West Virginia 25301



DATE July 9, 2013
 FARM McCoy Heirs No.17
 API WELL NO. 47-103-02812 S

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 810' WATERSHED Piney Fork
 DISTRICT Green COUNTY Wetzel
 QUADRANGLE Pine Grove 7.5'
 SURFACE OWNER Roberta B. Wayne ACREAGE 98.7 ac.
 OIL & GAS ROYALTY OWNER HG Energy, LLC., et al LEASE ACREAGE 150 ac.
 LEASE NO. 25040-50
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Convert well to liquid injection
 PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION Gordon ESTIMATED DEPTH 3,132' MD 2,883' TVD
 WELL OPERATOR HG Energy LLC. DESIGNATED AGENT Mike Kirsch
 ADDRESS 5260 DuPont Road Parkersburg, WV 26101 ADDRESS 5260 DuPont Road Parkersburg, WV 26101

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