



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

February 11, 2014

WELL WORK PERMIT
Rework-Secondary Recovery

This permit, API Well Number: 47-3304062, 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: C. W. SMITH NO. 10
Farm Name: HERROD, DON M. & DEBRA
API Well Number: 47-3304062
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

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: STROTHER, ROY F. Operator Well No.: C.W. SMITH #10

LOCATION: Elevation: 1,158.00 Quadrangle: WOLF SUMMIT

District: TENMILE County: HARRISON
Latitude: 10200 Feet South of 39 Deg. 20Min. 0 Sec.
Longitude 1600 Feet West of 80 Deg. 27 Min. 30 Sec.

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

Agent: JAMES A. CREWS

Inspector: TIM BENNETT
Permit Issued: 09/19/94
Well work Commenced: 10/25/94
Well work Completed: 04/07/95
Verbal Plugging
Permission granted on: _____
Rotary Cable _____ Rig
Total Depth (feet) 2825'
Fresh water depths (ft) N/A

Salt water depths (ft) N/A

Is coal being mined in area (Y/N)? _____
Coal Depths (ft): 329'-336'

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			
8-5/8"	396'	396'	130 sks.
4-1/2"	2775.75'	2775.75'	450 sks.

OPEN FLOW DATA * Water Injection Well

Producing formation Fifth Sand Pay zone depth (ft) 2696-2714
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: PENNZOIL PRODUCTS COMPANY
By: *Timothy P. Roush* Timothy P. Roush
Date: May 1, 1995

TREATMENT

Perforated Fifth Sand with 12 holes from 2704'-2706'. Fractured with 900 gals. 15% HCL, 142 bbls. gelled water and 5000 lbs. 20/40 sand.

WELL LOG

Sand and Shale	0' - 329'
Pittsburgh Coal	329' - 336'
Sand and Shale	336' - 498'
Sand	498' - 520'
Shale	520' - 720'
Sand	720' - 738'
Shale	738' - 774'
Sand	774' - 798'
Shale	798' - 846'
Sand	846' - 885'
Shale	885' - 1047'
Sand	1047' - 1130'
Shale	1130' - 1336'
Sand	1336' - 1377'
Shale	1377' - 1402'
Sand	1402' - 1417'
Shale	1417' - 1524'
Sand	1524' - 1546'
Shale	1546' - 1662'
Limestone (Little Lime)	1662' - 1678'
Shale	1678' - 1707'
Limestone (Big Lime)	1707' - 1789'
Sand (Big Injun)	1789' - 1848'
Shale	1848' - 2281'
Sand (Fifty Foot)	2281' - 2294'
Shale	2294' - 2355'
Sand (Thirty Foot)	2355' - 2367'
Shale	2367' - 2393'
Sand	2393' - 2416'
Shale w/sand streaks	2416' - 2478'
Sand (Gordon)	2478' - 2507'
Shale	2507' - 2514'
Sand (Fourth)	2514' - 2543'
Shale	2543' - 2696'
Sand (Fifth)	2696' - 2714'
Shale	2714' - 2825'
T.D.	2825'

WW-2B1

Well No. C. W. Smith No. 10

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
JAN 03 2014
RECEIVED
Office of Oil and Gas
WV Department of
Environmental Protection
JAN 03 2014
Department of
Environmental Protection

02/14/2014

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 Right Prong of New Creek Quadrangle Wolf Summit 7.5'
Elevation 1158' County Harrison District Tennile
Description of anticipated Pit Waste: Fluids encountered in stimulating existing well.
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? Yes _____ If so, what mil? 20 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 _____)

SDW
12/23/2013
MAG

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. Leave in pit
- If left in pit and plan to solidify, what medium will be used? Cement, lime, sawdust Native soil, cement, lime
- Landfill or offsite name/permit number? _____

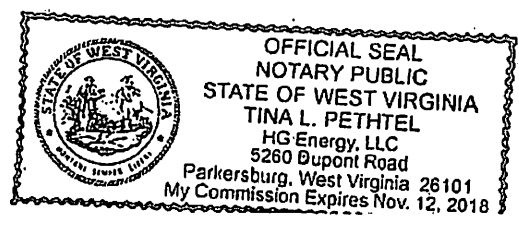
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations 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 16 day of December 2013
Tina L Pethel Notary Public

My commission expires Nov. 12, 2018



02/14/2014

Legend

Property Boundary		Diversion	
Road		Spring	
Existing Fence		Wet Spot	
Planned Fence		Drain Pipe	
Stream		Waterway	
Open Ditch		Cross Drain	
Rock		Filter Strip	
North		Pit: Cut Walls	
Buildings		Pit: Compacted Fill Walls	
Water Wells		Area of Land Application of Pit Waste	
Drill Site			

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>Lbs./Ac.</u>
Tall Fescue	<u>40</u>
Ladino Clover	<u>5</u>

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

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 DIVISION OF OIL AND GAS
 JAN 3 2014

Received

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] Michael A. Goff

Comments: Upgrade ETS as necessary Per WV DEP ETS Manual

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

Field Reviewed? () Yes (X) No

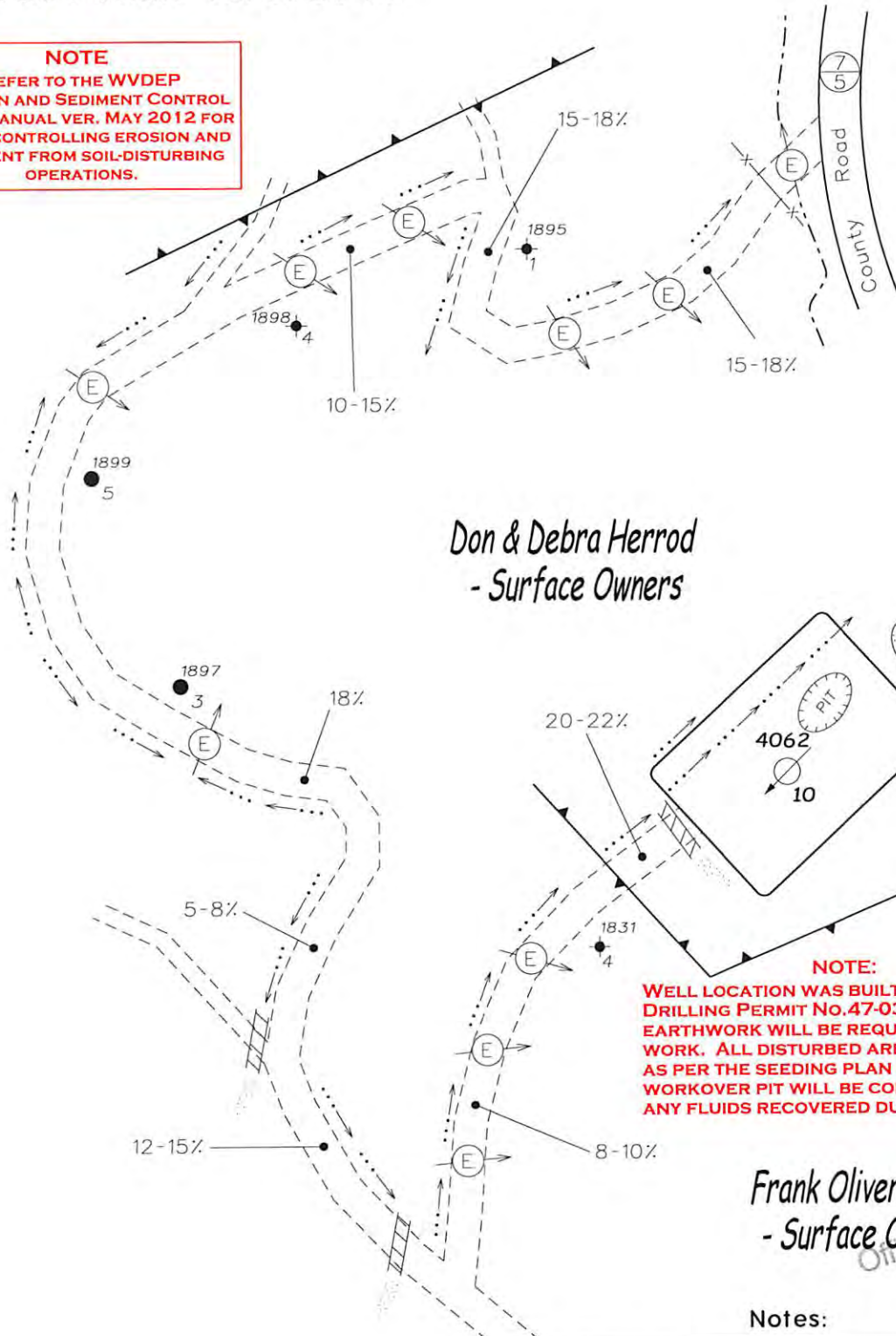
Reclamation Plan For: C.W. Smith No. 10

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.



*Don & Debra Herrod
- Surface Owners*

*Frank Oliverio Jr.
- Surface Owner*

NOTE:
WELL LOCATION WAS BUILT AND RECLAIMED UNDER
DRILLING PERMIT No.47-033-4062. 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 re-frac of existing well.
- Location and access roads from Co. Rd. 7/5 to the well are existing. Structures shown will be maintained.
- All disturbed areas will be re-vegetated as outlined on Form WW-9.
- Sediment barriers and drainage structures will be maintained.
- All road grades <5% except as noted.

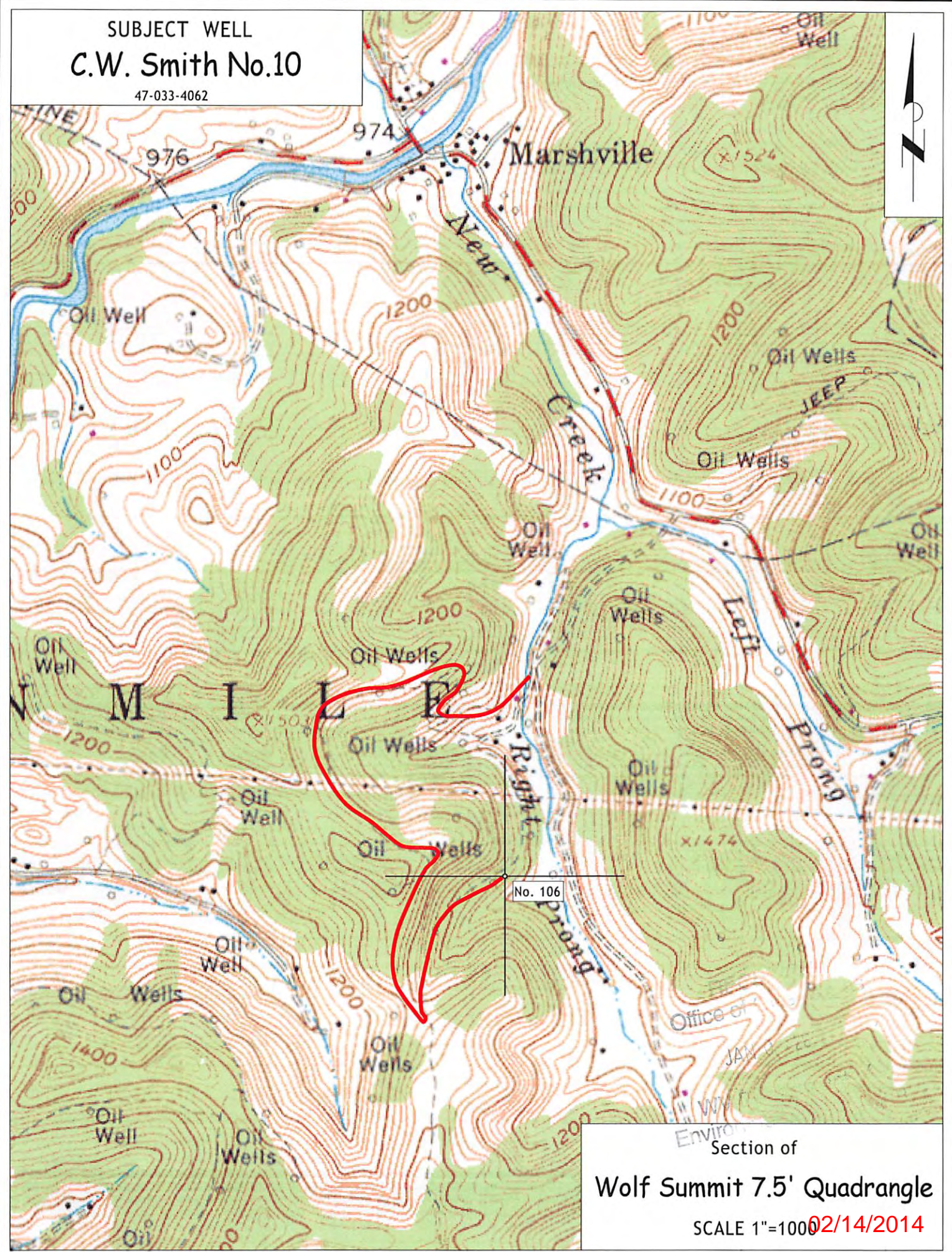
- Existing Culvert

Note: Drawing not to Scale

WV DEPARTMENT OF
NATURAL RESOURCES
Office of Oil and Gas
JAN 03 2014
02/14/2014

SUBJECT WELL
C.W. Smith No.10

47-033-4062



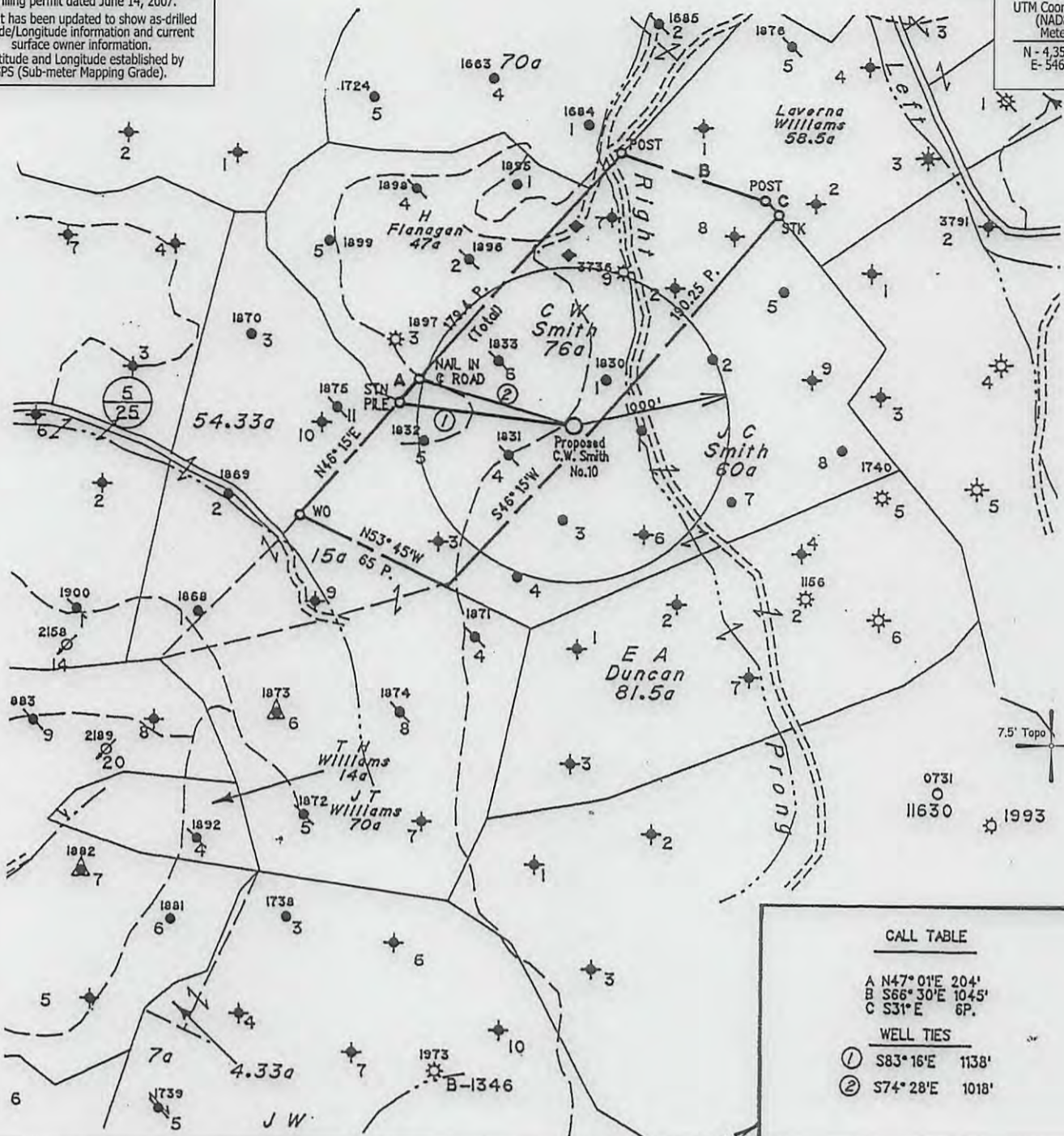
Section of
Wolf Summit 7.5' Quadrangle

SCALE 1"=1000 02/14/2014

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 (Sub-meter Mapping Grade).

UTM Coordinates (NAD83)
Meters
N - 4,350,817
E - 546,275



CALL TABLE

- A N47° 01'E 204'
- B S66° 30'E 1045'
- C S31° E 6P.

WELL TIES

- ① S83° 16'E 1138'
- ② S74° 28'E 1018'

- 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 25301



DATE _____ December 6, 2013
 FARM _____ C.W. Smith No.10
 API WELL NO. _____
47 - 033 - 04062 W/S

WELL TYPE: OIL _____ GAS _____ LIQUID INJECTION WASTE DISPOSAL _____
 (IF "GAS") PRODUCTION _____ STORAGE _____ DEEP _____ SHALLOW _____
 LOCATION: ELEVATION _____ 1,158' _____ WATERSHED _____ Right Prong of New Creek
 DISTRICT _____ Tenmile _____ COUNTY _____ Harrison
 QUADRANGLE _____ Wolf Summit 7.5'

SURFACE OWNER _____ Don & Debra Herrod _____ ACREAGE _____ 30.64 Ac. _____
 OIL & GAS ROYALTY OWNER _____ HG Energy, LLC., et al _____ LEASE ACREAGE _____ 76 Ac. _____ **02/14/2014**
 LEASE NO. _____ 72719-50 _____

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 _____ 2,825' _____

WELL OPERATOR _____ HG Energy LLC. _____ DESIGNATED AGENT _____ Mike Kirsch
 ADDRESS _____ 5260 DuPont Road _____ ADDRESS _____ 5260 DuPont Road
 Parkersburg, WV 26101 _____ Parkersburg, WV 26101