



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

July 31, 2015

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-10302106, 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.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalties being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.


James Martin
Chief

Operator's Well No: E. DULANEY 112
Farm Name: MYERS, HERBERT
API Well Number: 47-10302106
Permit Type: Plugging
Date Issued: 07/31/2015

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. 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.

WW-4B
Rev. 2/01

- 1) Date: June 5, 2015
- 2) Operator's Well Number
Elizabeth Dulaney 112
- 3) API Well No: 47 - 103 - 2106
State County Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) WELL TYPE: Oil _____ Gas _____ Liquid Injection x Waste Disposal _____
(If "Gas", Production _____ Underground Storage _____) Deep _____ Shallow x

5) LOCATION: Elevation: 1343' Watershed: Honey Run
District: Center County: Wetzel Quadrangle Wileyville 7.5'

6) WELL OPERATOR: HG Energy, LLC 494497948 7) DESIGNATED AGENT Diane White
Address 5260 Dupont Road Address 5260 Dupont Road
Parkersburg, WV 26101 Parkersburg, WV 26101

8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) PLUGGING CONTRACTOR
Name Derek Haught Name To Be Determined Upon Approval of Permit
Address P. O. Box 85 Address _____
Smithfield, WV 26178

10) WORK ORDER: The work order for the manner of plugging this well is as follows:

TD- 3,400'

Manners of plugging:

- Plug #1 3300' - 3200'
- If unable to pull all 4 1/2" casing - free point, part and pull (approx 1900')
- Plug #2 -located at 4 1/2" casing stub approx 1950' - 1850'
- Plug #3 -located at 9 5/8" casing shoe / elevation 1400' - 1100'
- Plug #4 - fresh water protection 450' - 350'
- Plug #5 - surface plug 100' - 0'

DMH
6-15-15

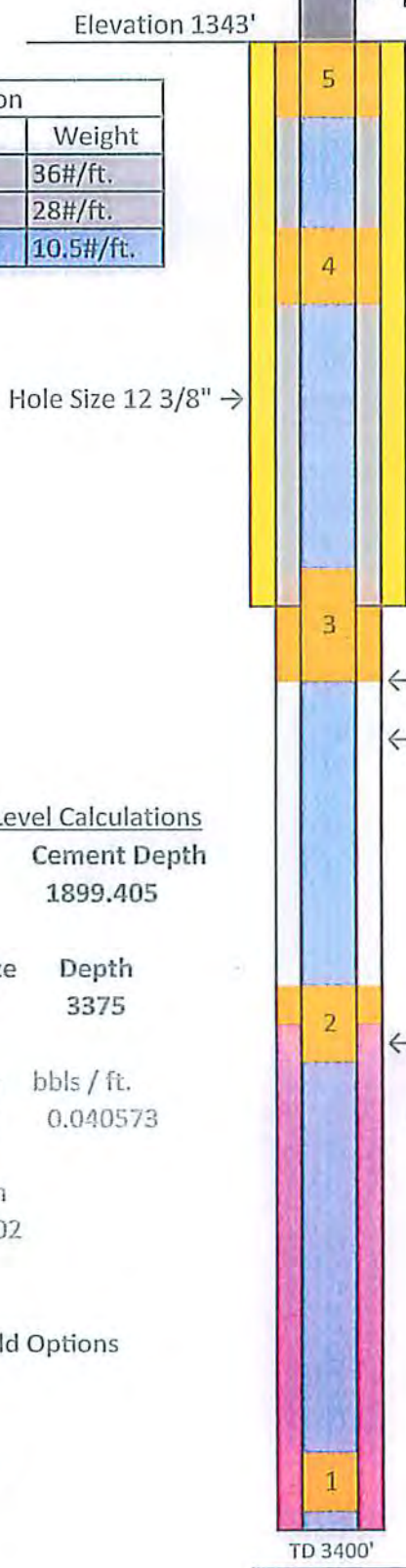
6% Gel between all plugs
Monument min. 6" metal pipe, 30" above surface, 10' in well below surface, sealed w/cement & API ID

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Well: Elizabeth Dulaney 112

Monument min. 6" dia. metal pipe, 30" above surface, 10' in well below surface, sealed with cement, API I.D.

Casing Information		
Size	Depth	Weight
9 5/8"	324'	36#/ft.
9 5/8"	972'	28#/ft.
4 1/2"	3375'	10.5#/ft.



450 sacks cement to surface

Freepoint Cut and Pull Casing	
Size	Approx. Depth
4 1/2"	1900

Cement Plugs		
NO.	Bottom	Top
1	3300	3200
2	1950	1850
3	1400	1175
4	450	350
5	100	0

Pittsburgh Coal 1223'
8 3/4" Hole Size

400 sks regular neat cement

Bottom Hole Cement Level Calculations

# Sacks Used	Cement Depth
400	1899.405

Hole Size	Casing Size	Depth
7.875	4.5	3375

diameter delta	Conv. Factor	bbls / ft.
41.765625	1029.4	0.040573

cubic ft. per vertical ft. depth
0.227795902

Sacks per vertical ft. depth
0.271077123 ← Edit Yield Options

Yield options

- 50/50 posmix 6% gel = 1.64
- Neat w/ salt flakes = 1.19
- 50/50 w/ 2% gel = 1.27

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Perforation 3321' - 3329'

Note: 6% gel between all plugs

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

Well Operator's Report of Well Work

COPY

Farm name: MYERS, HERBERT

Operator Well No.: E. DULANEY 112

LOCATION: Elevation: 1343'

Quadrangle: WILEYVILLE 7.5'

District: CENTER

County: WETZEL

Latitude: 13,025 Feet south of 39 Deg 40 Min 0 Sec.

Longitude: 925 Feet west of 80 Deg 37 Min 30 Sec.

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

Casing Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
9 5/8	1296.00'	1296.00'	450 sks
4 1/2"	3375.00'	3375.00'	400 sks

Agent: PHILIP S. ONDRUSEK

Inspector: MIKE UNDERWOOD

Permit Issued: 06/29/05

Well work Commenced: 08/15/05

Well work Completed: 08/18/06

Verbal plugging

permission granted on:

Rotary X Cable _____ Rig _____

Total Depth (feet) 3400'

Fresh water depths (ft) 200'

Salt water depths (ft) _____

Is coal being mined in area (Y/N) N

Coal Depths (ft): NA

OPEN FLOW DATA * WATERFLOOD PRODUCER

Producing formation Gordon Pay zone depth (ft) 3321'-3329'

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

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OCT 10 2006

For: EAST RESOURCES, INC.

By: _____

Date: 10/14/06

JUN 25 2005

WV Department of
Environmental Protection

07/31/2015

Treatment: Treated perforations (3321-3329) (45PF) via 4 1/2 casing w/ 250 gals. 15% HCl acid, 288 bbls cross linked gel, and 10,000 # 30/30 sand.

7910

Well Log:	0	1094	Sand and Shale
	1094	1190	Sand
	1190	1368	Shale
	1368	1384	Sand
	1384	1392	Shale
	1392	1417	Sand
	1417	1516	Shale
	1516	1548	Sand
	1548	1556	Shale
	1556	1568	Sand
	1568	1720	Shale
	1720	1757	Sand
	1757	1768	Shale
	1768	1786	Sand
	1786	1836	Shale
	1836	1872	Sand
	1872	1924	Shale
	1924	1950	Sand
	1950	1992	Shale
	1992	2036	Sand
	2036	2068	Shale
	2068	2090	Sand
	2090	2111	Shale
	2111	2160	Sand
	2160	2200	Shale
	2200	2244	Sand
	2244	2302	Shale
	2302	2312	Sand
	2312	2350	Shale
	2390	2416	Sand
	2416	2436	Shale
	2436	2494	Big Lims
	2494	2714	Big Lims
	2714	3288	Shale
	3288	3312	Gordon Stray
	3312	3321	Shale
	3321	3329	Gordon
	3329	3400	Shale
	3400		TD

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07/31/2015

*CR# 3065
100-00*

1) Date: June 5, 2015
 2) Operator's Well Number
Elizabeth Dulaney 112
 3) API Well No.: 47 - 103 - 2106

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL

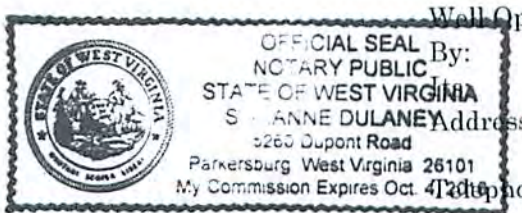
<p>4) Surface Owner(s) to be served:</p> <p>(a) Name <u>Herbert R. Myers Jr.</u> Address <u>HC 68, Box 58</u> <u>Littleton, WV 26581</u></p> <p>(b) Name _____ Address _____</p> <p>(c) Name _____ Address _____</p>	<p>5) (a) Coal Operator</p> <p>Name <u>NA</u> Address _____</p> <p>(b) Coal Owner(s) with Declaration</p> <p>Name <u>NA</u> Address _____</p> <p>(c) Coal Lessee with Declaration</p> <p>Name <u>NA</u> Address _____</p>
<p>6) Inspector <u>Derek Haught</u> Address <u>P. O. Box 85</u> <u>Smithfield, WV 26178</u> Telephone <u>304-206-7613</u></p>	

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.



Well Operator HG Energy, LLC
 By: Diane White
 Agent
 5260 Dupont Road
 Parkersburg, WV 26101
 304-420-1119

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WV Department of
 Environmental Protection

Subscribed and sworn before me this 5th day of June
S. Dulaney Notary Public
 My Commission Expires Oct 4, 2015

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at deprivacyofficer@wv.gov.

07/31/2015

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 Name HG Energy, LLC OP Code 494497948

Watershed Honey Run Quadrangle Wileyville 7.5'

Elevation 1343' County Wetzel District Center

Description of anticipated Pit Waste: Fluids encountered while plugging subject well

Will a synthetic liner be used in the pit? Yes - 20 mil

*DMH
6-19-15*

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 _____)

Proposed Work For Which Pit Will Be Used:

- Drilling
- Workover
- Other (Explain _____)
- Swabbing
- Plugging

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 White

Company Official (Typed Name) Diane White

Company Official Title Agent

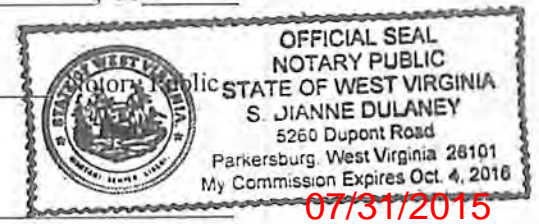
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Subscribed and sworn before me this 5th day of June, 2015

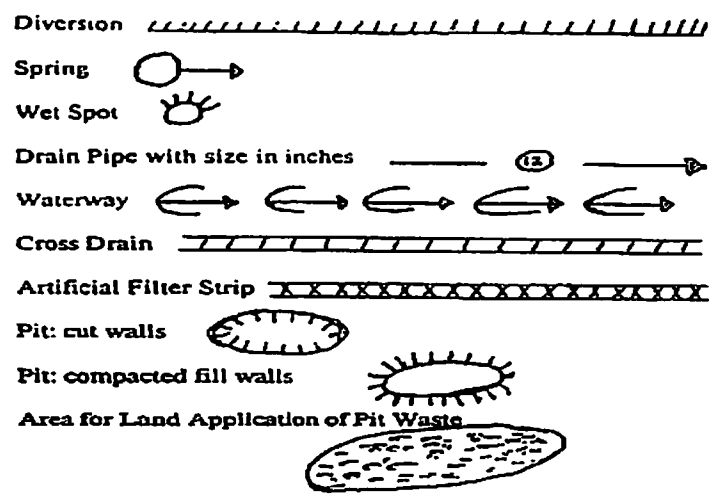
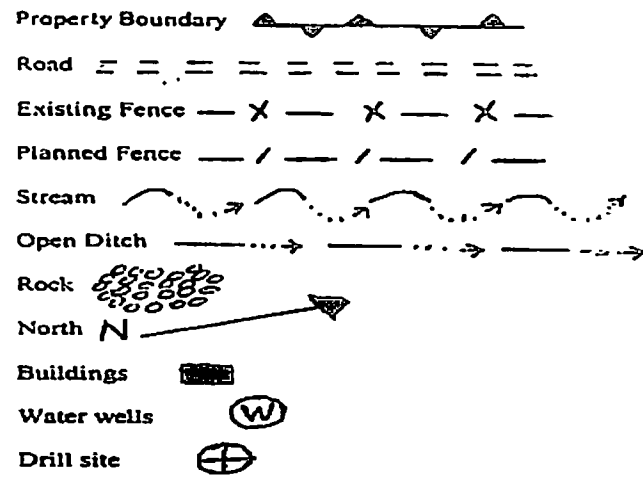
S. Dianne Dulaney



My commission expires Oct 4, 2016

07/31/2015

LEGEND



Proposed Revegetation Treatment: Acres Disturbed 0.7 Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

Mulch Straw 2 Tons/acre

Seed Mixtures

Seed Type	Area I	lbs/acre
Tall Fescue		40
Ladino Clover		5

Seed Type	Area II	lbs/acre
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.

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Plan Approved by:

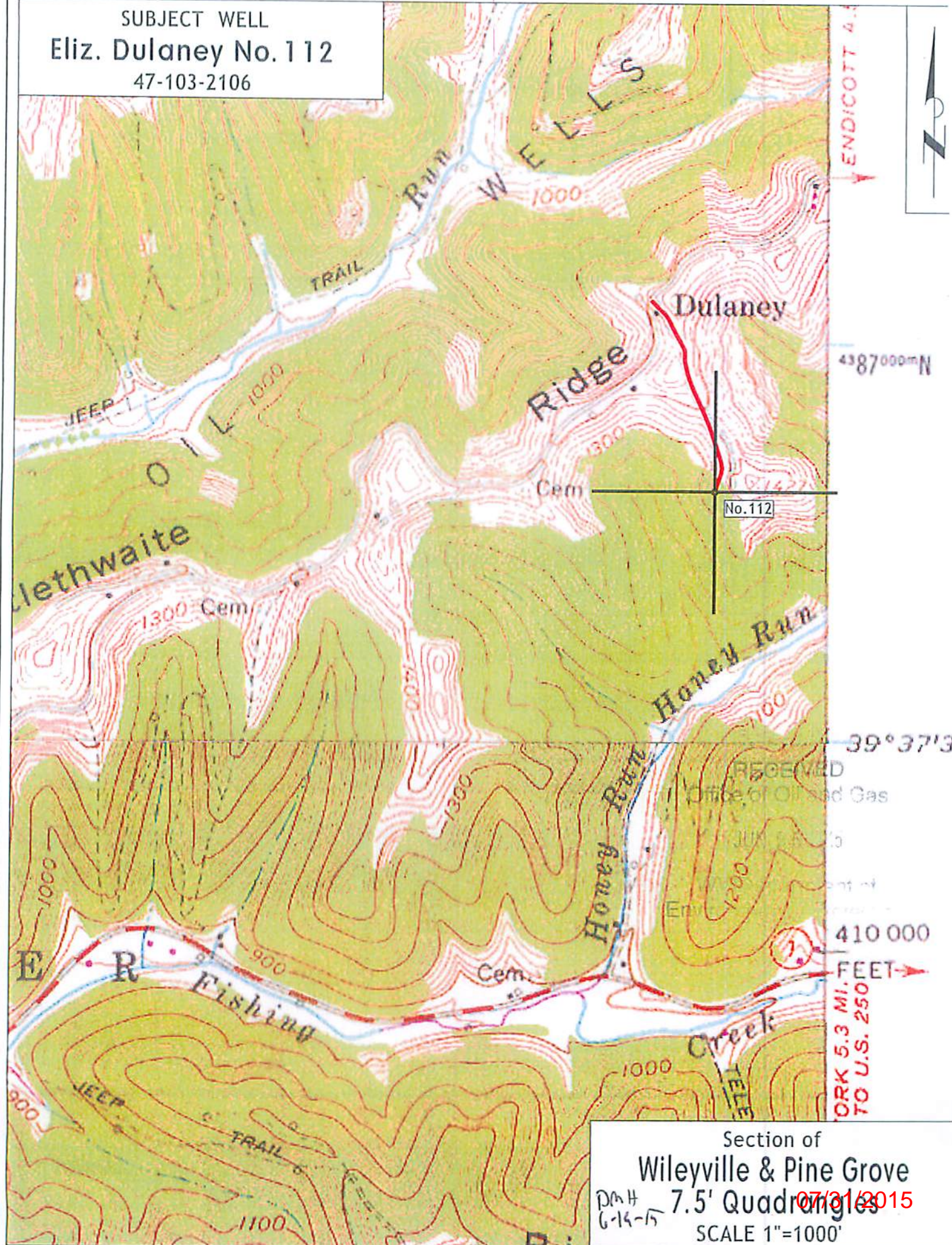
Comments: _____

Title: Oil & Gas Inspector

Date: 6-19-15

Field Reviewed? Yes No

SUBJECT WELL
Eliz. Dulaney No. 112
47-103-2106



Section of
Wileyville & Pine Grove
7.5' Quadrangles
SCALE 1"=1000'

PMH
6-14-15

07/31/2015

West Virginia Department of Environmental Protection
Office of Oil & Gas

WELL LOCATION FORM: GPS

API: 47- 103 - 2106 WELL NO: 112

FARM NAME: Elizabeth Dulaney

RESPONSIBLE PARTY NAME: H.G. Energy, LLC

COUNTY: Wetzel DISTRICT: Center

QUADRANGLE: Wileyville 7.5'

SURFACE OWNER: Herbert R. Myers Jr.

ROYALTY OWNER: American Energy Partners et al.

UTM GPS NORTHING: 4,386,855 (NAD 83)

UTM GPS EASTING: 531,924 (NAD 83) GPS ELEVATION: 410 m. (1345')

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) - meters.
2. Accuracy to Datum - 3.05 meters
3. Data Collection Method:

Survey Grade GPS	<input type="checkbox"/>	Post Processed Differential	<input type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>
Mapping Grade GPS	<input checked="" type="checkbox"/>	Post Processed Differential	<input checked="" type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>

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I the undersigned, hereby certify this data 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 Office of Oil and Gas.

Diane White Diane C. White
Signature

Designated Agent
Title

May 27, 2015
Date