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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

June 27, 2016

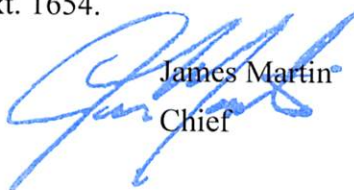
**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-1704846, 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: D. BAKER 18  
Farm Name: BAKER, DORSEY - HEIRS  
**API Well Number: 47-1704846**  
**Permit Type: Plugging**  
Date Issued: 06/27/2016

## 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.

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### 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.
4. This well is under a consent order and must be plugged under the terms of that agreement.



1704846P

WW-4B - Conti  
Rev. 2/01

1) Date: May 5, 2016  
2) Operator's Well Number Dorsey Baker Heirs 18  
3) API Well No: 47 - 017 - 4846  
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 \_\_\_\_\_ Waste Disposal \_\_\_\_\_  
(If "Gas", Production \_\_\_\_\_ Underground Storage \_\_\_\_\_ ) Deep \_\_\_\_\_ Shallow   
5) LOCATION: Elevation: 1296' Watershed: Laughery Fork  
District: McClellan County: Doddridge Quadrangle Centerpoint 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 Daniel Flack Name To Be Determined Upon Approval of Permit  
Address 58 River Avenue Address \_\_\_\_\_  
Buckhannon, WV 26201

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

TD- 3,350'

Manners of plugging:

Plug #1 - 2800' - 2700'

Located above the highest perforation

Free point, part and pull 4 1/2" casing at approx 1800'

Plug # 2 - Approx 1850' - 1750'

Located at 4 1/2" casing stub

Plug #3 - 1350' - 1250'

Located at elevation/Pittsburgh Coal

Plug #4 - 625' - 525'

Located at 7" casing shoe

Plug #5 - 100' - 0'

Surface

Recover all possible casing. If casing can not be recovered, perforate for plug placement.

Monument -

6" minimum diameter metal pipe

30" above surface

10' in well below surface

Sealed with cement

API identification (1/2") height numbering

6% Gel between all plugs

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JUN 16 2016

DAR  
6/9/16

07/01/2016



Well: Baker, Dorsey Heirs 18

Monument to extend 30" above surface. 10' into well. 6" min metal pipe, sealed with cement. API i.D.

Elevation: 1296'

Casing Information		
Size	Depth	Weight
7"	581'	20#/ft.
4 1/2"	3253'	10.5#/ft.

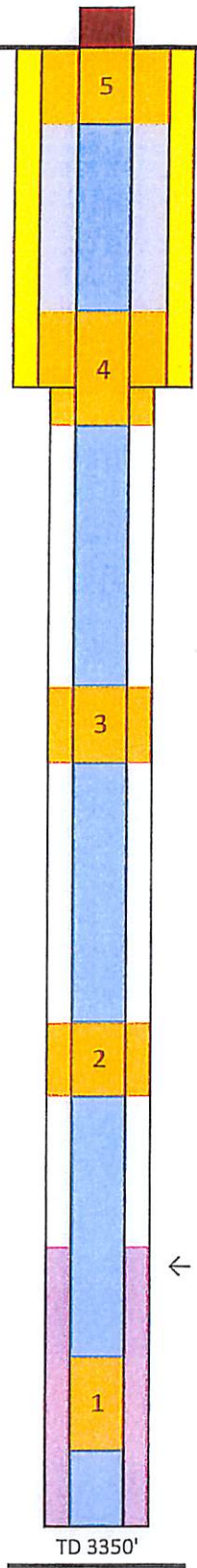
← 140 sacks cement to surface

Freepoint Cut and Pull Casing	
Size	Approx. Depth
4 1/2"	1800'

Cement Plugs		
NO.	Bottom	Top
1	2800	2700
2	1850	1750
3	1350	1250
4	625	525
5	100	0

Hole Size 6.75" →

Pittsburgh Coal / Elevation →



← 145 Sacks Cement T.O.C. 2325'

Highest Perforation 3158' (3152')

Bottom Hole Cement Level Calculations

# Sacks Used                      Cement Depth  
 140                                      -108.841

Hole Size      Casing Size      Depth  
 8.75              7              581

diameter delta      Conv. Factor      bbls / ft.  
 27.5625              1029.4              0.026775

cubic ft. per vertical ft. depth  
 0.150329956

Sacks per vertical ft. depth  
 0.20294544

Yield options

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

*DAF*  
*6/9/16*

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 JUN 16 2016

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

Well Operator's Report of Well Work

Farm name: BAKER, DORSEY- HEIRS

Operator Well No.: D. BAKER 18

LOCATION: Elevation: 1,296.00

Quadrangle: CENTERPOINT 7.5'

District: MCELROY

County: TYLER

Latitude: 10,000 Feet south of 39 Deg 27 Min 30 Sec.

Longitude: 8,050 Feet west of 80 Deg 40 Min 00 Sec.

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

Agent: PHILIP S. ONDRUSEK

Inspector: MIKE UNDERWOOD

Permit Issued: 06/23/04

Well work Commenced: 07/14/04

Well work Completed: 08/04/04

Verbal plugging permission granted on:

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

Total Depth (feet) 3350

Fresh water depths (ft) NA

Salt water depths (ft) 2370

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"	581.00'	581.00'	140 sks
4 1/2"	3252.60'	3252.60'	145 sks

OPEN FLOW DATA

\* WATERFLOOD PRODUCER

Producing formation Gordon Pay zone depth (ft) 3152-3172

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: [Signature]

Date: 07/14/04

Office of Oil & Gas  
JUN 16 2016

**DRILLING PROGNOSIS**  
**DORSEY BAKER HRS NO. 18**  
 McClellan Dist – Doddridge County, WV

LOCATION: Stringtown

PERMIT NO.: 47-017-04846

ELEVATION: 1296' G.L.

**DRILLING AND**

**CASING PROGRAM:** Drill at least an 8 3/4 hole to approx. 570', set approx. 550', 7" O D, 17 #/ft limited service casing on a casing shoe. Cement back to surface with 140 sks. reg. neat cement with 3% CaCl<sub>2</sub> and 1/4# Flocele/sk. W.O.C. 8 hrs.

Drill a 6 1/2" hole to approx. 3290' MD. Set 4 1/2", 10.5#/ft, J-55 casing. Cement with 75 sks 50/50 Pozmix w/ 2% CaCl<sub>2</sub> 6% gel, 1/8# flocele/sk, and 70 sks 50/50 Pozmix w/ 2% CaCl<sub>2</sub> 2% gel, 1/8# flocele/sk. Perform Mechanical Integrity Test on 4 1/2" casing after wiper plug is landed by pressure testing to 2000 psig for 20 min.

**DRILLING FLUID:** Fluid to total depth. Use freshwater to surface casing point, 2 1/2 - 3% KCL system below surface casing. Prior to drilling Gordon water loss to be reduced to 20 cc or less.

**DRILLING TIME AND SAMPLES:** One foot drilling time from surface to total depth. Ten-foot samples from 2325' to total depth.

**LOGGING:** To be determined at time of drilling

**PIPE TALLY:** Drill string will be strapped out on last trip at or before coring point or total depth is reached. If a correction of more than five feet (5') is necessary, then drill string is to be strapped going back in hole.

<b>FORMATION TOPS:</b>	Pittsburgh Coal	1296' G.L.
	Big Lime	2355' G.L.
	Big Injun	2411' G.L.
	Pocono Shale	2587' G.L.
	Gordon Stray	3132' G.L.
	Gordon	3154' G.L.
	Shale	3183' G.L.
	T.D.	3290' G.L.

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**Office of Oil & Gas**  
**JUN 16 2016**

**SUPERVISION:** A morning report will be called into the Parkersburg office by 8:00 a.m. each morning.

07/01/2016

FRACTURING REPORT

Lease: Dorsey Baker Well No. 18

T.D. 3350 - P.B.D. \_\_\_\_\_ - ~~Ran Gamma Ray Collar Logs.~~

Formation: GORDON Original Completion: Yes No

Perf: 3158 - 3172 - 4 Holes Per Ft. (56 holes).

Treated Perfs. via 4 1/2 csg. w/ 250 gals. 15% HCl

acid; 300 Bbls. cross linked SEI & 14,000 lbs. of 20/40

sand. B.D.P. 2102 psig - Max T.P. 3380 psig - Min. T.P. 1650

psig - Avg. T.P. 2020 psig - Avg. T.R. 10 B.P.M.

ISIP 3129 psig - 5 min. SIP 1450 psig - 10 min. SIP 1096

psig - 15 min. SIP 793 psig.

Service Company: Halliburton

Date: 8/31 04 By: Roger Hedder

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JUN 16 2016



1704846 P

WW-4A  
Revised 6-07

1) Date: May 5, 2016  
2) Operator's Well Number  
Dorsey Baker Helrs 18

3) API Well No.: 47 - 017 - 4846

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

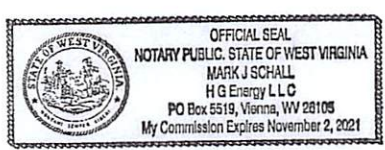
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Dorsey Baker Estate - c/o Linda Butler</u>	Name <u>NA</u>
Address <u>1267 51st Stret</u>	Address _____
<u>Greeley, CO 80634</u>	_____
(b) Name <u>Fred Glover</u>	(b) Coal Owner(s) with Declaration
Address <u>HC 62, Box 53</u>	Name <u>NA</u>
<u>Jacksonburg, WV 26377</u>	Address _____
_____	_____
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Daniel Flack</u>	(c) Coal Lessee with Declaration
Address <u>58 River Avenue</u>	Name <u>NA</u>
<u>Buckhannon, WV 26201</u>	Address _____
Telephone <u>304-545-0109</u>	_____

**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 *Diane White*  
 Its: Agent  
 Address 5260 Dupont Road  
Parkersburg, WV 26101  
 Telephone 304-420-1119

Received  
Office of Oil & Gas  
JUN 16 2016

Subscribed and sworn before me this 5th day of May, 2016  
[Signature] Notary Public  
My Commission Expires NOVEMBER 2, 2021

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 [depprivacyoffier@wv.gov](mailto:depprivacyoffier@wv.gov).

07/01/2016

1704846 P

WW-9  
Rev. 5/08

Page \_\_\_\_\_ of \_\_\_\_\_  
API Number 47 - 017 - 4846  
Operator's Well No. Dorsey Baker Heirs 18

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 Laughery Fork Quadrangle Centerpoint 7.5'

Elevation 1296' County Doddridge District McClellan

Description of anticipated Pit Waste: No pit will be used, fluids will be hauled to an authorized off site disposal facility

Will a synthetic liner be used in the pit? No

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

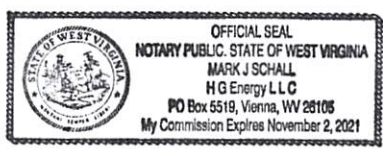
Company Official Title Agent

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Office of Oil & Gas  
JUN 16 2016

Subscribed and sworn before me this 5th day of May, 2016

[Signature]

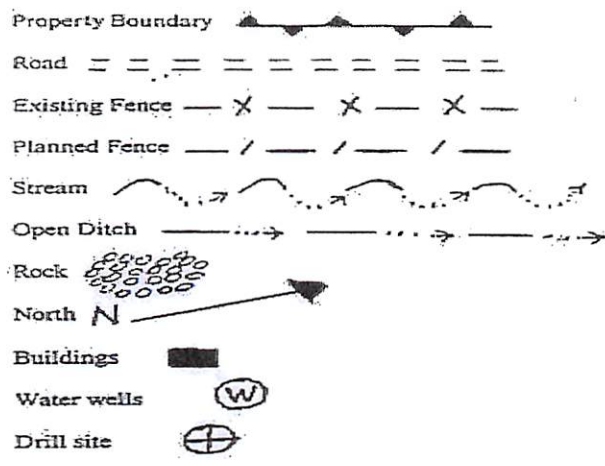
Notary Public



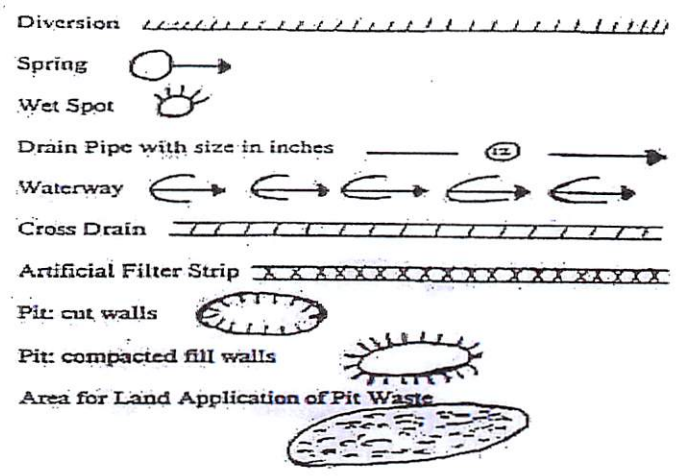
My commission expires NOVEMBER 2, 2021

07/01/2016





LEGEND



Proposed Revegetation Treatment: Acres Disturbed 0.6 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

**\*\* Sediment Control Should Be in Place At All Times \*\***

Attach:  
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Daniel Flack

Comments: \_\_\_\_\_

Title: [Signature]

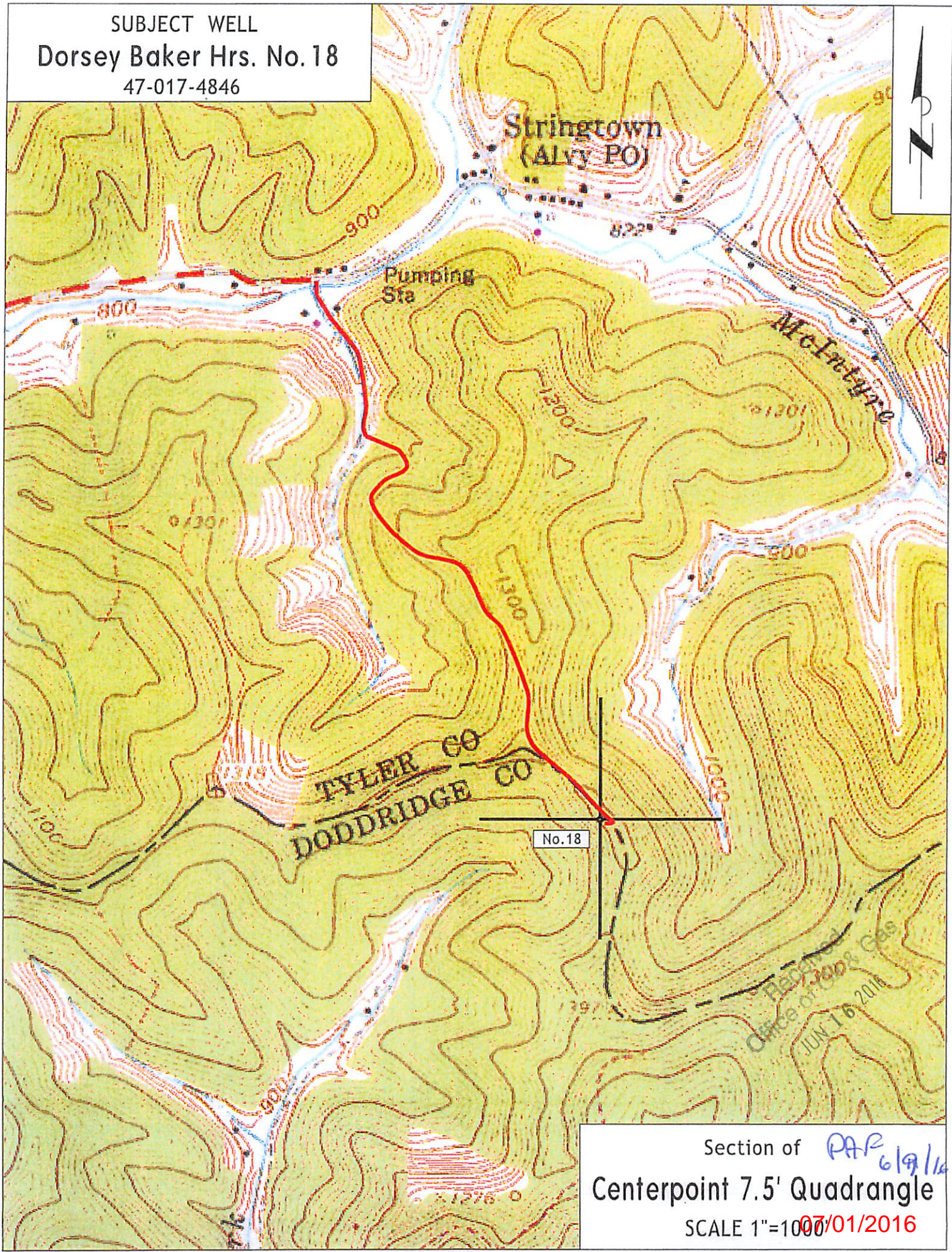
Date: 6/9/16

Field Reviewed?  Yes  No

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JUN 16 2016



SUBJECT WELL  
Dorsey Baker Hrs. No. 18  
47-017-4846



RECEIVED  
Office of Gas  
JUN 16 2016

Section of *PAR 6/9/16*  
Centerpoint 7.5' Quadrangle  
SCALE 1"=1000 *07/01/2016*



West Virginia Department of Environmental Protection  
Office of Oil & Gas  
**WELL LOCATION FORM: GPS**

API: 47- 017 -04846 WELL NO: 18

FARM NAME: Dorsey Baker Hrs. 18

RESPONSIBLE PARTY NAME: H.G. Energy, LLC

COUNTY: Doddridge DISTRICT: McClellan

QUADRANGLE: Centerpoint 7.5'

SURFACE OWNER: Dorsey Baker Estate

ROYALTY OWNER: Ascent Resources

UTM GPS NORTHING: 4,364,633 (NAD 83)

UTM GPS EASTING: 526,246 (NAD 83) GPS ELEVATION: 395 m. (1296')

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"/>

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 4, 2016  
Date

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Office of Oil & Gas  
JUN 16 2016