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

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 penalities 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

Promoting a healthy environment.

1704846P

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

1704846P

WW-4B
Rev. 2/01

1) Date May 5, 2016
2) Operator's Well No. Dorsey Baker Heirs 18
3) API Well No. 47- 017 - 4846

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 X / Gas ____ / Liquid injection ____ / Waste disposal ____ /
(If "Gas, Production ____ or Underground storage ____) Deep ____ / Shallow X

5) Location: Elevation 1296' Watershed Laughery Fork
District McClellan County Doddridge Quadrangle Centerpoint 7.5'

6) Well Operator HG Energy, LLC
Address 5260 Dupont Road
Parkersburg, WV 26101

7) Designated Agent Diane White
Address 5260 Dupont Road
Parkersburg, WV 26101

8) Oil and Gas Inspector to be notified
Name Daniel Flack
Address 58 River Avenue
Buckhannon, WV 26201

9) Plugging Contractor
Name To Be Determined Upon Approval of Permit
Address

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

** See Attached Sheet **

Received
Office of Oil & Gas
JUN 16 2016

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector _____ Date 6/9/16

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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 x Gas ____ Liquid Injection ____ Waste Disposal ____
(If "Gas", Production ____ Underground Storage ____) Deep ____ Shallow x

5) LOCATION: Elevation: 1296' Watershed: Laughery Fork
District: McClellan County: Doddridge Quadrangle Centerpoint 7.5'

6) WELL OPERATOR: HG Energy, LLC 494497948
Address 5260 Dupont Road
Parkersburg, WV 26101

7) DESIGNATED AGENT Diane White
Address 5260 Dupont Road
Parkersburg, WV 26101

8) OIL & GAS INSPECTOR TO BE NOTIFIED
Name Daniel Flack
Address 58 River Avenue
Buckhannon, WV 26201

9) PLUGGING CONTRACTOR
Name To Be Determined Upon Approval of Permit
Address

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

DAP
6/9/16

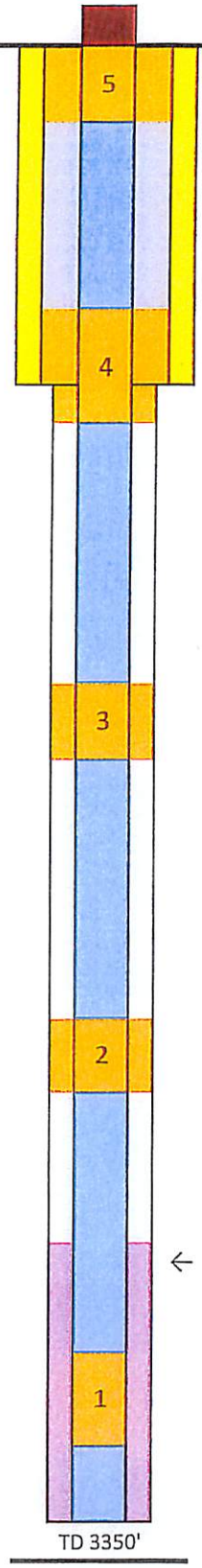
1704846P

Well: Baker, Dorsey Heirs 18

Elevation: 1296'

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

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

WR-35

17048460

23-Jun-04

API # 47 17 4846

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.

Received
Office of Oil & Gas
JUN 16 2016

For: EAST RESOURCES, INC.
By:
Date: 10/19/04

1704846P

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% $CaCl_2$ and ¼# 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% $CaCl_2$ 6% gel, 1/8# flocele/sk, and 70 sks 50/50 Pozmix w/ 2% $CaCl_2$ 2% gel, 1/8# flocele/sk. Perform Mechanical Integrity Test on 4 ½" 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, 2½ - 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.

FORMATION TOPS:

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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JUN 16 2016

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

Office Cell Home

1704846P

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 gel & 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 Holder

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JUN 16 2016

1704846P

WW-4A
Revised 6-07

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

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

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE 0F APPLICATION TO PLUG AND ABANDON A WELL

4) Surface Owner(s) to be served:
(a) Name: Dorsey Baker Estate - c/o Linda Butler
Address: 1267 51st Stret
Greeley, CO 80634
(b) Name: Fred Glover
Address: HC 62, Box 53
Jacksonburg, WV 26377
(c) Name
Address

5) (a) Coal Operator
Name: NA
Address
(b) Coal Owner(s) with Declaration
Name: NA
Address
Name
Address
(c) Coal Lessee with Declaration
Name: NA
Address

6) Inspector: Daniel Flack
Address: 58 River Avenue
Buckhannon, WV 26201
Telephone: 304-545-0109

6/9/16

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.

OFFICIAL SEAL
NOTARY PUBLIC, STATE OF WEST VIRGINIA
MARK J SCHALL
H G Energy L L C
PO Box 5519, Vienna, WV 26105
My Commission Expires November 2, 2021

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
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.

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_____)
x Off Site Dispposal (Supply form WW-9 for disposal location)
_____ Other (Explain_____

Proposed Work For Which Pit Will Be Used:

_____ Drilling _____ Swabbing
_____ Workover x Plugging
_____ Other (Explain_____

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

Received
Office of Oil & Gas
JUN 16 2016

Subscribed and sworn before me this 5th day of May, 20 16

Notory Public

OFFICIAL SEAL
NOTARY PUBLIC, STATE OF WEST VIRGINIA
MARK J SCHALL
H G Energy L L C
PO Box 5519, Vienna, WV 26105
My Commission Expires November 2, 2021

My commission expires NOVEMBER 2, 2021

1704846P

Form WW-9

Operator's Well No. Dorsey Baker Heirs 18

LEGEND

Property Boundary
Road
Existing Fence
Planned Fence
Stream
Open Ditch
Rock
North N
Buildings
Water wells W
Drill site

Diversion
Spring
Wet Spot
Drain Pipe with size in inches 12
Waterway
Cross Drain
Artificial Filter Strip
Pit: cut walls
Pit: compacted fill walls
Area for Land Application of Pit Waste

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

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	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: _____ Date: 6/9/16

Field Reviewed? (✓) Yes ( ) No

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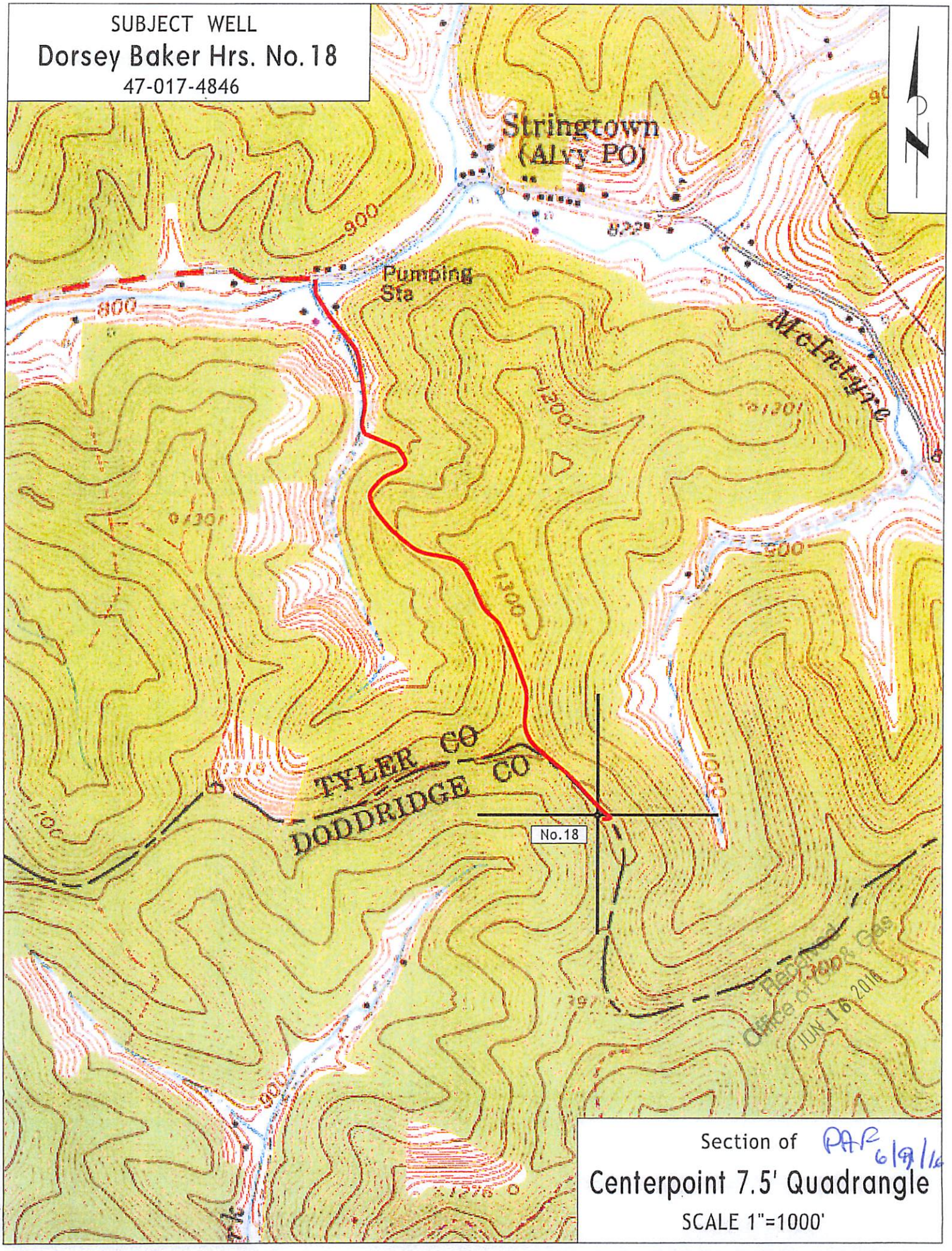
Office of Oil & Gas
JUN 16 2016

1704846P

SUBJECT WELL

Dorsey Baker Hrs. No. 18

47-017-4846



Section of PAP 6/9/16

Centerpoint 7.5' Quadrangle

SCALE 1"=1000'

RECEIVED
Office of Oil & Gas
JUN 16 2016

1704846P

WW-7
5-02

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	___	Post Processed Differential	___
		Real-Time Differential	___
Mapping Grade GPS	X	Post Processed Differential	X
		Real-Time Differential	___

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.

Received
Office of Oil & Gas
JUN 16 2016

Diane White Diane C. White Designated Agent
Signature Title

May 4, 2016
Date