



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

March 01, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4301483, 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. T. SPURLOCK 6
Farm Name: BROYLES, SANDRA ROGERS
API Well Number: 47-4301483
Permit Type: Plugging
Date Issued: 03/01/2016

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. 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 - Conti
Rev. 2/01

- 1) Date: January 14, 2016
- 2) Operator's Well Number
E T Spurlock 6
- 3) API Well No: 47 - 043 - 1483
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 x Liquid Injection Waste Disposal
(If "Gas", Production Underground Storage) Deep Shallow x
- 5) LOCATION: Elevation: 815' Watershed: Hayzlett Fork
District: Duval County: Lincoln Quadrangle Garretts Bend 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 Jeremy James Name To Be Determined Upon Approval of Permit
Address P. O. Box 36 Address
Clendenin, WV 25045

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

TD- 2,375'

Manners of plugging:

- Plug #1 - ~~2200' - 2190'~~ 2300-2200 tag cement plug + reset if below 2200
Located above the highest perforation
Free point, part and pull 4 1/2" casing at approx ~~1800'~~ 1750' if unable to pull, set 100% cement plug
- Plug # 2 - Approx. 1850' - 1750'
Located at 4 1/2" casing stub
overcut + set against poll below sea level
- Plug #3 - 875' - 775'
Located at elevation
- Plug #4 - 250' - 0'
Located at 8 5/8" casing shoe, fresh water, 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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Office of Oil and Gas

FEB 05 2016

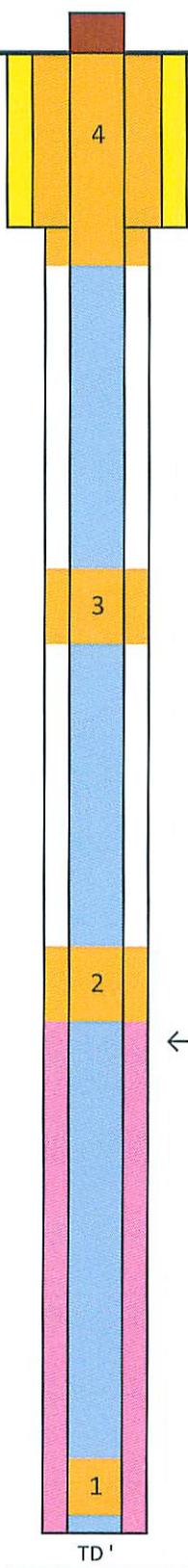
WV Department of
Environmental Protection

Well: E.T. Spurlock #6

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

Elevation: 819'

Casing Information		
Size	Depth	Weight
8 5/8"	197	#/ft.
4 1/2"	2365	#/ft.



← 150 sacks cement to surface

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

Hole Size 6.75" →

Cement Plugs		
NO.	Bottom	Top
1	2200 2300	2100 2200
2	1850	1750
3	875	775
4	250	0

Bottom Hole Cement Level Calculations

Sacks Used Cement Depth
 50 2058.079

Hole Size Casing Size Depth
 6.75 4.5 2365

diameter delta Conv. Factor bbls / ft.
 25.3125 1029.4 0.02459

cubic ft. per vertical ft. depth
 0.138058122

Sacks per vertical ft. depth
 0.162908584

Yield options

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

← 50 Sks Cement T.O.C. 2060'

Highest Perforation 2307'

TD'

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DRILLING PROGNOSIS

4301483^P RECEIVED
Office of Oil and Gas

E. T. Spurlock No. 6

Duval District Lincoln County

FEB 05 2016

WV Department of
Environmental Protection

LOCATION 1740' S 28° 45' E of a N. W. line and 1728' S 3° W of a N. E. line
of the E. T. Spurlock tract

PERMIT NO: LIN-1483

ELEVATION: 818.57

CONTRACTOR: F.W.A. Drilling Co.

DRILLING AND CASING PROGRAM: Drill 11 " hole to approx. 200 ' set 8-5/8 - 20# H 40
casing on a casing shoe. Cement back to surface w/ 150 sks.
reg. neat cement w/3% cc. WOC 8 hrs.

Drill at least a 6-3/4 " hole to approx. 2400 ' or T.D.
set 4 1/2 " O.D., 9.50, K-55, casing, cement w/ 500
gals mud flush, 50 sks. 50/50 posmix, 2% cc., and 1/8# Flo-
seal per sk., pump plug down w/ ----- ~~XXX~~ gals 15% H.C.L. acid,
double inhabited.

Actual casing point will be picked from logs.

MUD PROGRAM: Air or Fluid ---- if air is used to T.D., hole will be circulated
with a _____ mud before _____ " O.D. casing
is cemented.

If hole is drilled w/fluid, water to 2200 '.

2200 ' to T.D., a 9.0# or less, 36 vis., 10 cc WL or less, mud
will be used to T.D.

NOTE: The following mud characteristics must be met and maintained before the
Berea Sand is drilled and until casing is cemented.

DRILLING TIME AND SAMPLES: 10 ft. Drilling time from 1350' to T.D.
10 ft. samples from 1350' to 2250'
5 ft. samples from 2250' to T.D. -

LOGGING: 5" Gamma Ray-Density from T.D. to top of salt sand
2" Gamma Ray-Density to surface

FORMATION TOPS:		
<u>Little Lime</u>	<u>1613</u>	'
<u>Big Lime</u>	<u>1649</u>	'
<u>Big Injun Section</u>	<u>1813</u>	'
<u>Berea</u>	<u>2333</u>	'
<u>Shale</u>	<u>2355</u>	'
<u>T.D.</u>	<u>2400</u>	'
		'
		'
		'

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

<u>Wade Swiger</u>	<u>Foreman</u>	<u>965-3671</u>	<u>Office</u>	<u>577-6330</u>	<u>Home</u>
<u>Burl Valentine</u>	<u>Area Supt.</u>	<u>965-6001</u>	<u>Office</u>	<u>965-5271</u>	<u>Home</u>
<u>Bob Fryce</u>	<u>Geologist</u>	<u>422-6565</u>	<u>Office</u>	<u>428-7547</u>	<u>Home</u>
<u>Jim West</u>	<u>Drlg. Supt.</u>	<u>422-6565</u>	<u>Office</u>	<u>485-1322</u>	<u>Home</u>
<u>Fritz Gesch, Jr.</u>	<u>Dist. Supt.</u>	<u>422-6565</u>	<u>Office</u>	<u>295-4222</u>	<u>Home</u>
<u>Dennis Wise</u>	<u>Prod. Mgr.</u>	<u>422-6565</u>	<u>Office</u>	<u>428-9542</u>	<u>Home</u>
<u>John Blomberg</u>	<u>Dist. Eng.</u>	<u>422-6565</u>	<u>Office</u>	<u>428-2074</u>	<u>Home</u>
<u>George SanFilippo</u>	<u>Pet.Eng.</u>	<u>422-6565</u>	<u>Office</u>	<u>485-6648</u>	<u>Home</u>

WW-4A
Revised 6-07

1) Date: January 14, 2016
2) Operator's Well Number
E T Spurlock 6
3) API Well No.: 47 - 043 - 1483

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

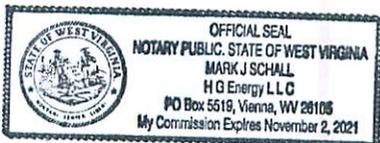
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Sarah R. Boyles</u> ✓	Name <u>NA</u>
Address <u>1909 Garrett's Bend Road</u>	Address _____
<u>Sod, WV 25564</u>	_____
(b) Name <u>Vernon & Kathy Adams</u> ✓	(b) Coal Owner(s) with Declaration
Address <u>16 Brooks Road</u>	Name <u>NA</u>
<u>Sod, WV 25564</u>	Address _____
_____	_____
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Jeremy James</u>	(c) Coal Lessee with Declaration
Address <u>P. O. Box 36</u>	Name <u>NA</u>
<u>Clendenin, WV 25045</u>	Address _____
Telephone <u>304-951-2596</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

Subscribed and sworn before me this 14th day of January
[Signature] Notary Public
 My Commission Expires NOVEMBER 2, 2021

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Office of Oil and Gas

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.

FEB 05 2016
 WV Department of
 Environmental Protection

~~430148~~
4301483P

WW-9
(2/15)

API Number 47 - 043 - 1483

Operator's Well No. ET Spurlock 6

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name HG Energy, LLC OP Code 494497948

Watershed (HUC 10) Hayzlett Fork Quadrangle Garrett's Bend 7.5'

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes No

Will a pit be used? Yes No

If so, please describe anticipated pit waste: Fluids encountered while plugging above referenced well

Will a synthetic liner be used in the pit? Yes No If so, what ml.? 30 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 _____)

Will closed loop system be used? If so, describe: No

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. NA

-If oil based, what type? Synthetic, petroleum, etc. NA

Additives to be used in drilling medium? NA

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. NA

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) NA

-Landfill or offsite name/permit number? NA

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

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

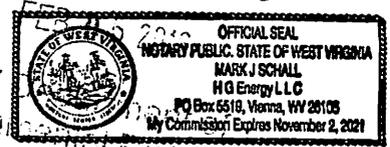
Subscribed and sworn before me this 14th day of January, 20 16

[Signature]

Notary Public

My commission expires NOVEMBER 2, 2021

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Office of Oil and Gas



WV
Environmental Protection

HG Energy, LLC

Proposed Revegetation Treatment: Acres Disturbed 1.0 acres Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch Straw 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5

**** Sediment Control Will Be In Place At All Times ****

Attach:

Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

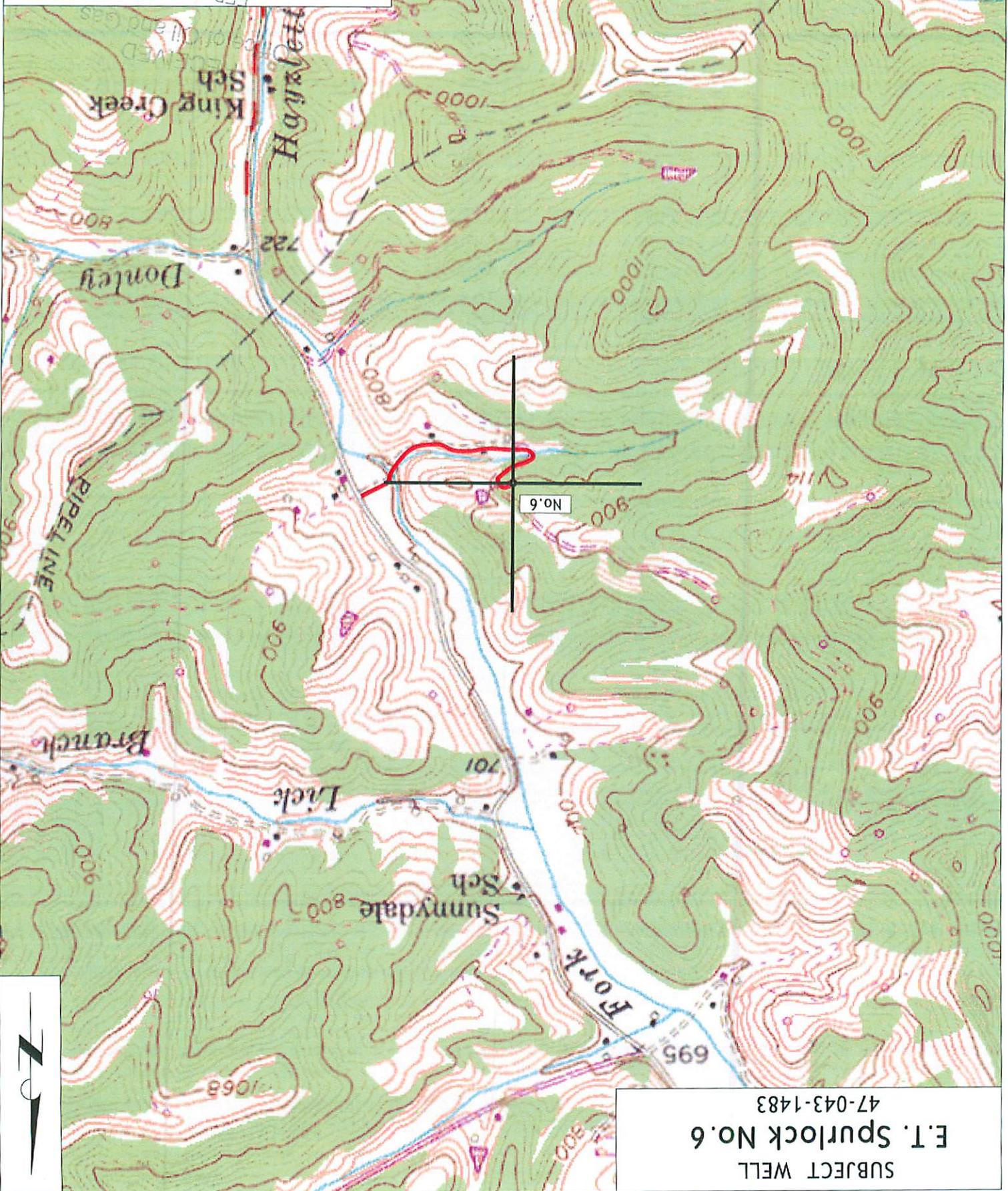
Plan Approved by: 

Comments: _____

Title: inspector 006 Date: 1-26-16

Field Reviewed? () Yes () No

Garrett's Bend 7.5' Quadrangle
SCALE 1"=1000'
Section of 16



SUBJECT WELL
E.T. Spurlock No.6
47-043-1483



4301483P

WW-7
5-02

West Virginia Department of Environmental Protection
Office of Oil & Gas

WELL LOCATION FORM: GPS

API: 47- 043 - 1483 WELL NO: 6

FARM NAME: E.T. Spurlock No.6

RESPONSIBLE PARTY NAME: H.G. Energy, LLC

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: Sarah R. Broyles

ROYALTY OWNER: H.G. Energy, LLC et al.

UTM GPS NORTHING: 4,237,661 (NAD 83)

UTM GPS EASTING: 421,611 (NAD 83) GPS ELEVATION: 248 m. 813.6 ft

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

November 24, 2015
Date