



west virginia department of environmental protection

Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Earl Ray Tomblin , Governor  
Randy C. Huffman , Cabinet Secretary  
www.dep.wv.gov

Friday, August 19, 2016  
WELL WORK PERMIT  
Vertical / Plugging

HG ENERGY, LLC  
5260 DUPONT ROAD

PARKERSBURG, WV 26101

Re: Permit approval for 2  
47-043-01692-00-00

This well work permit 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 any additional specific 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 of 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.

Per 35 CSR 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- 0450.

James A. Martin  
Chief

Operator's Well Number: 2  
Farm Name: ALFORD, J. V.  
U.S. WELL NUMBER: 47-043-01692-00-00  
Vertical / Plugging  
Date Issued: 8/19/2016

Promoting a healthy environment.

08/19/2016

## 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.

WW-4B  
Rev. 2/01

1) Date June 20 \_\_\_\_\_, 20 16  
2) Operator's  
Well No. JV Alford 2  
3) API Well No. 47-043 - 1692

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 X or Underground storage \_\_\_\_\_) Deep \_\_\_\_\_ / Shallow X

5) Location: Elevation 709' Watershed Joe's Creek  
District Duval County Lincoln Quadrangle Garrett's Bend 7.5'

6) Well Operator HG Energy, LLC 7) Designated Agent Diane White  
Address 5260 Dupont Road Address 5260 Dupont Road  
Parkersburg, WV 26101 Parkersburg, WV 26101

8) Oil and Gas Inspector to be notified 9) Plugging Contractor  
Name Jeffery L. Smith Name To Be Determined Upon Approval of Permit  
Address 5369 Big Tyler Road Address \_\_\_\_\_  
Cross Lanes, WV 25313

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

\*\* See Attached Sheet \*\*

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

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Work order approved by inspector \_\_\_\_\_



WV Department of  
Environmental Protection

08/19/2016

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WW-4B - Conti  
Rev. 2/01

1) Date: June 20, 2016  
2) Operator's Well Number J V Alford 2  
3) API Well No: 47 - 043 - 1692  
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: 709' Watershed: Joe's Creek  
District: Duval County: Lincoln Quadrangle Garrett's 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 Jeffery Smith Name To Be Determined Upon Approval of Permit  
Address 5369 Big Tyler Road Address     
Cross Lanes, WV 25313   

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

TD- 2,263'  
SPOT GEL FROM PBTO.

Manners of plugging:  
Plug #1 - 2000' - 1900'  
Located above the highest perforation  
Free point, part and pull 4 1/2" casing at approximately 1650'  
Plug # 2 - Approx 1700' - 1600'  
Located at 4 1/2" casing stub  
Plug #3 - 750' - 650'  
Located at elevation  
Plug #4 - 300' - Surface  
Located at 8 5/8" casing shoe, Freshwater to 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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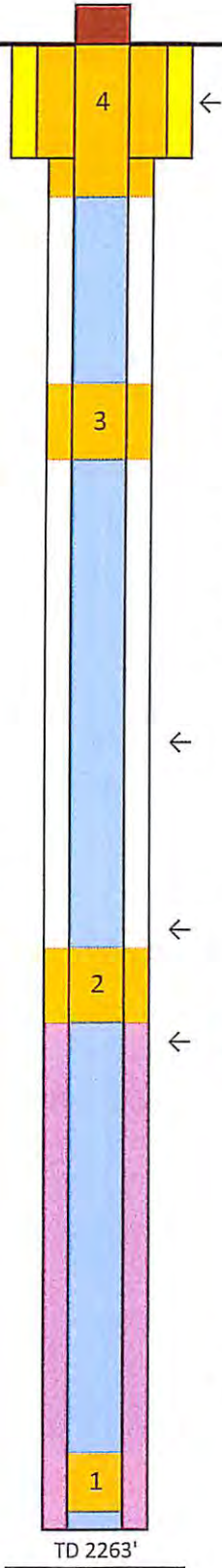


Well: J.V. Alford Hrs #2

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

Elevation: 709'

Casing Information		
Size	Depth	Weight
8 5/8"	127	20#/ft.
4 1/2"	2266	10.5#/ft.



75 sacks cement to surface

Freepoint Cut and Pull Casing	
Size	Approx. Depth
4 1/2"	1650

Cement Plugs		
NO.	Bottom	Top
1	2000	1900
2	1700	1600
3	750	650
4	300	0

7 7/8" Hole Size to 1541'



6 3/4" Hole size 1541' to 2261'

50 Sks Cement T.O.C. 1950'

←

Bottom Hole Cement Level Calculations  
 # Sacks Used                      Cement Depth  
 50                                      1956.079

Hole Size            Casing Size    Depth  
 6.75                    4.5                2263

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

NOTCHED @ 2190'

Highest Perforation 2195'

TD 2263'

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**CONFIRMING COMPLETION TICKET**

COMPANY REMARKS

**WVS COMPLETION REPORT** 38.20.00 81.50.00 PAGE 1  
 PI# 47-043-21692 PERMIT 1692

W VA LINCOLN 17500 S 22550 W WELL CLASS 66  
 PENNZOIL CO 2 J V ALFORD HEIRS  
 OPERATOR 709 GR DUVAL WELL NO. LEASE NAME GRIFFITHSVILLE  
 OPER. ELEV. DISTRICT API 47-043-21692-00  
 COMMERCIAL ELEV. LEASE NO. PERMIT OR WELL I.D. NO. OIL  
 07/28/1976 08/02/1976 ROTARY  
 SPUD DATE 2265 BEREA COMP. DATE TYPE TOOLS STATUS  
 TD 2263 CONTRACTOR FM/TD DEVON SH  
 DRILLER'S T.D. LOG T.D. PLUS BACK TO T.D. FORM/T.D.

**CASING DATA**

CSG 8 5/8 @ 136 W/ 75 4 1/2 @ 2260 W/ 50 01 02

**INITIAL PCTENTIAL**

IPU 58OPD 6MCFD  
 BEREA PERF 004  
 INT NOT RPTD

TYPE	FORMATION	DEPTH	SUBSEA	FORMATION	DEPTH	SUBSEA
SPL	L LIME	1474	765-	BG LIME	1510	801-
	MACCRADY	1690	981-			
SPL	B INJUN	1708	999-	COFFEE	2160	1451-
	BEREA	2188	1479-			
SPL	BL LIME	1500	795-	BBG LIME	1690	981-
	MACCRADY	1708	999-			
SPL	BB INJUN	1768	1059-	BCOFFEE	2188	1479-
	BEREA	2209	1500-			

**PRODUCTION TEST DATA**

PTU 58OPD 8MCFD  
 BEREA PERF 003  
 SOFR 563LBBS 26000LBS SAND  
 20/40 SD  
 ACID 75CGALS 15%  
 INT NOT RPTD

**MISCELLANEOUS**

MAP QUAD ST ALBANS ACRES 165

**DRILLING PROGRESS DETAILS**

PENNZOIL CO

PI-WVS-FMIR  
Form No. 335

Petroleum Information  
CONSULTANT

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43 01692A

OG-10  
Rev. 9-71



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NOV 16 1976

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
Oil and Gas Division  
WELL RECORD

OIL & GAS DIVISION  
DEPT. OF MINES

Rotary  Oil   
Cable \_\_\_\_\_ Gas   
Recycling \_\_\_\_\_ Comb.   
Water Flood \_\_\_\_\_ Storage   
Disposal \_\_\_\_\_ (Kind)

Quadrangle St. Albans  
Permit No. Lin-1692

Company PENNZOIL COMPANY  
Address P. O. Box 1588, Parkersburg, W. Va.  
Farm J. V. Alford Hrs. Acres 165  
Location (waters) Williams Fork  
Well No. 2 Elev. 709.15'  
District Duval County Lincoln  
The surface of tract is owned in fee by Larry E. King  
Address 1128 Lowerentz Street, Detroit, Mich.  
Mineral rights are owned by James E. Kessinger  
Address P.O. Box 3092, Sheridan, Wyo.  
Drilling Commenced July 28, 1976  
Drilling Completed August 2, 1976  
Initial flow 8,000 cu. ft. 8 bbls.  
Final production 6,000 cu. ft. per day 5 bbls.  
Well open \_\_\_\_\_ hrs. before test \_\_\_\_\_ RP.Well treatment details:

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up, Cu. ft. (Sks.)
Size 20-16			
Cond. 13-10"			
9 5/8			
8 5/8	136	136	75 sks.
7			
5 1/2			
4 1/2	2260	2260	50 sks.
3			
2			
Liners Used			

Attach copy of cementing record.

Fractured w/563 Bbls. Crude Oil, 26,000# 20/40 sd., 750 Gal., 15% HCL

Coal was encountered at \_\_\_\_\_ Feet \_\_\_\_\_ Inches  
Fresh water \_\_\_\_\_ Feet Salt Water \_\_\_\_\_ Feet  
Producing Sand Berea Depth \_\_\_\_\_

Formation	Color	Hard & Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Substructure			0	8		
Shale			8	856		
Salt Sand			856	1216		
Shale			1216	1241		
Salt Sand			1241	1293		
Shale			1293	1310		
Salt Sand			1310	1416		
Shale			1416	1448		
Salt Sand			1448	1474		
Little Lime			1474	1504		
Pencil Cave			1504	1510		
Big Lime			1510	1690		
McGrady Shale			1690	1708		
Big Injun			1708	1768		
Shale			1768	2160		
Coffee Shale			2160	2188		
Berea			2188	2209		
Shale			2209	2263		
Total Depth				2263		

08/19/2016

\* Indicate Electric Log tops in the remarks section.

(over)



WW-4A  
Revised 6-07

1) Date: June 20, 2016  
2) Operator's Well Number  
J V Alford 2

3) API Well No.: 47 - 043 - 1692

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

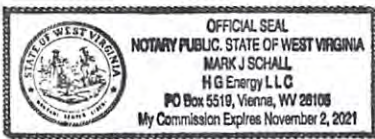
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Larry &amp; Pattie King</u> ✓	Name <u>NA</u>
Address <u>730 Joe's Creek Road</u>	Address _____
<u>Sod, WV 25564</u>	_____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>NA</u>
_____	Address _____
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Jeffery L. Smith</u>	(c) Coal Lessee with Declaration
Address <u>5369 Big Tyler Road</u>	Name <u>NA</u>
<u>Cross Lanes, WV 25313</u>	Address _____
Telephone _____	_____

**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 20th day of June 2016  
 My Commission Expires NOVEMBER 2ND, 2021  
 Notary Public

**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 [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

4301692P

WW-9  
(5/16)

API Number 47 - 043 - 1692  
Operator's Well No. J V Alford 2

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) Joe's Creek 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: \_\_\_\_\_

Will a synthetic liner be used in the pit? Yes  No  If so, what ml.? \_\_\_\_\_

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection ( UIC Permit Number \_\_\_\_\_ )
- Reuse (at API Number \_\_\_\_\_ )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain Any fluids will be hauled for off site disposal at an authorized site to be determined at the time the well is plugged)

ANY WELL EFFLUENT WILL BE CONTAINED IN TANKS UNTIL DISPOSED OF OFF SITE. gmm

Will closed loop system be used? If so, describe: NA

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) \_\_\_\_\_

-Landfill or offsite name/permit number? \_\_\_\_\_

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 April 1, 2016, 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 20th day of June, 2016

*[Signature]*

Notary Public

My commission expires NOVEMBER 2ND, 2021



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Proposed Revegetation Treatment: Acres Disturbed 0.6 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:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Jeffrey Smith

Comments: All sediment control to be removed prior to release.

Title: Oil & Gas Impacts

Date: 06/20/2016

Field Reviewed?  Yes  No

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

Operator Name: HG Energy, LLC  
Watershed (HUC 10): Joe's Creek Quad: Garrett's Bend 7.5'  
Farm Name: J V Alford

1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

NA

2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

NA

3. List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

NA

4. Summarize all activities at your facility that are already regulated for groundwater protection.

NA

5. Discuss any existing groundwater quality data for your facility or an adjacent property.

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NA

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

NA

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

NA

8. Provide provisions and frequency for inspections of all GPP elements and equipment.

NA

Signature: Diane White

Date: 06/20/2016

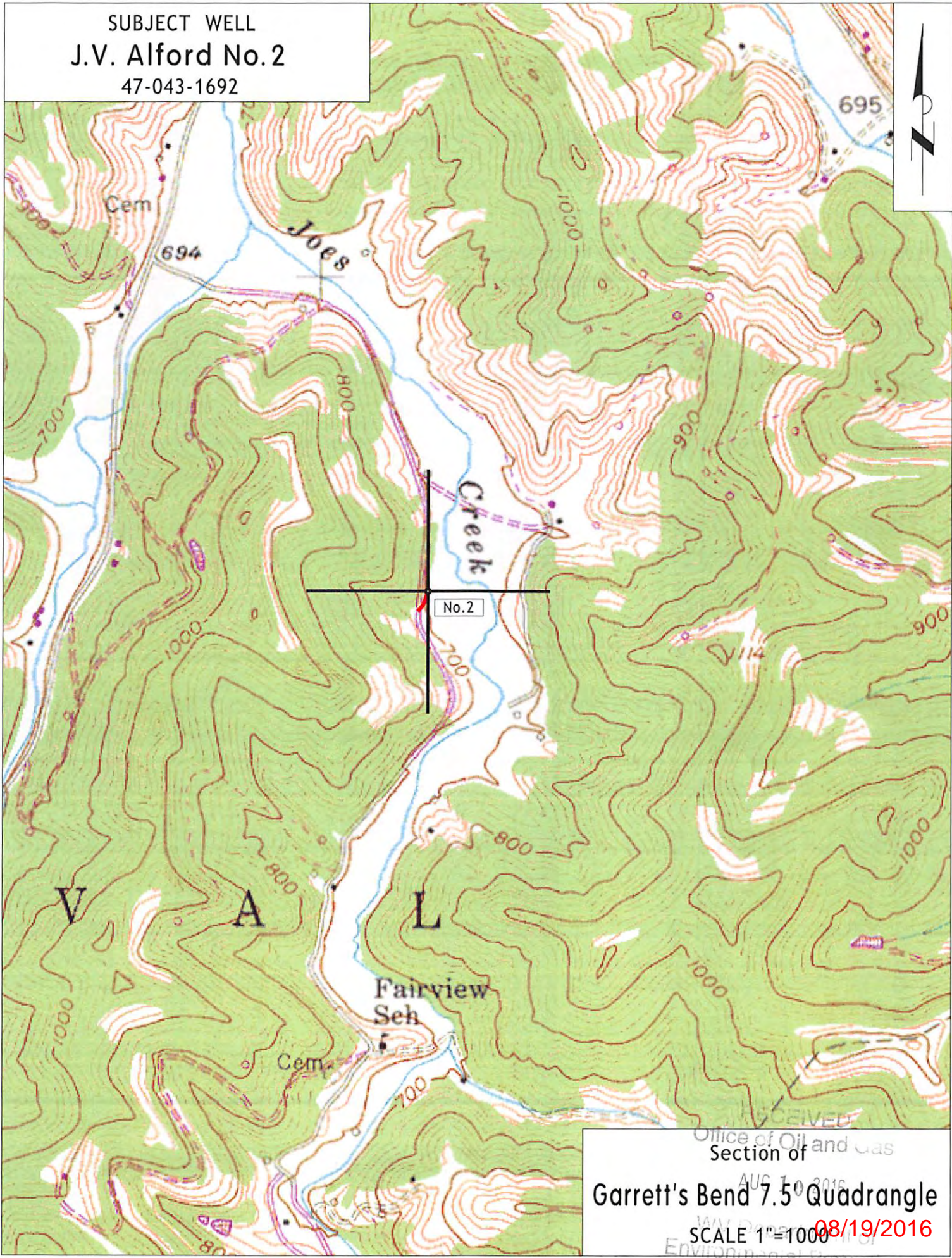
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SUBJECT WELL  
J.V. Alford No.2  
47-043-1692



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Office of Oil and Gas  
Section of  
AUG 19 2016  
Garrett's Bend 7.5 Quadrangle  
SCALE 1"=1000' 08/19/2016  
Environmental Protection



4301692 P

WW-7  
5-02

West Virginia Department of Environmental Protection  
Office of Oil & Gas

**WELL LOCATION FORM: GPS**

API: 47- 043 - 1692 WELL NO: 3

FARM NAME: J.V. Alford No.2

RESPONSIBLE PARTY NAME: H.G. Energy, LLC

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: Larry & Pattie King

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

UTM GPS NORTHING: 4,237,799 (NAD 83)

UTM GPS EASTING: 420,118 (NAD 83) GPS ELEVATION: 217 m. (711.8')

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

November 24, 2015  
Date

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Designated Agent  
Title

AUG 10 2015

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**08/19/2016**