west virginia department of environmental protection

Office of Oil and Gas
601 57th 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.

4301692P

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.

4301692P

WW-4B
Rev. 2/01

1) Date June 20, 2016
2) Operator's Well No. J V 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
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 Jeffery L. Smith
Address 5369 Big Tyler Road
Cross Lanes, WV 25313

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 **

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WV Department of Environmental Protection

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

Work order approved by inspector Jeffery Smith Date 8/10/16

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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 x Gas x Liquid Injection _____ Waste Disposal _____
(If "Gas", Production x 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 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 Jeffery Smith
Address 5369 Big Tyler Road
Cross Lanes, WV 25313

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- 2,263'
SPOT GEL FROM PBTD.

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

JS

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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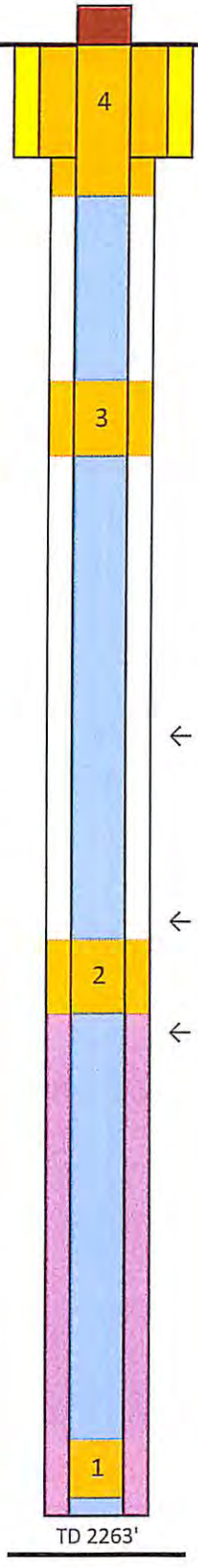
Well: J.V. Alford Hrs #2

Elevation: 709'

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

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'

JS

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

50 Sks Cement T.O.C. 1950'

NOTCHED @ 2190'

Highest Perforation 2195'

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

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Form No. 989 1M 9/66 M'G. 1917

PENNZOIL COMPANY

NEW WELL REPORT

Lease No. 46471-00 165 Acres

Working District Southern Area

J. V. Alford Farm

Well No. 2 N. S. 78/79 E. W. 73/74 map 114-W / 124-W

Duval District or Township

Lincoln County

St. Albans Quad.

Location Made July 21 19 76

Drilling Commenced July 28 19 76

Drilling Equipment Used ☒ Spudder ☐ Rotary

Drilling Completed August 2 19 76

Drilling Equipment Furnished by Clint Hurt Inc.

Total Depth 2263 Sand Berea Sand

Elevation: Floor 717.15

Drilling Contractor Clint Hurt Ass. Inc.

Elevation: Ground 709.15

Work Order No.

FORMATION RECORD

Kind	Top	Bottom	Steel Line Meas.	Test	Kind	Top	Bottom	Steel Line Meas.	Test
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							
McCrady Shale	1690	1708							
Big Injun	1708	1768							
Shale	1768	2160							
Coffee Shale	2160	2188							
Berea	2188	2209							
Shale	2209	2263							
Total Depth		2263							
Logged by Basin Surveys 8-2-76 to 2260									

(OVER)

4301692P

CONFIRMING COMPLETION TICKET

COMPANY REMARKS

WRS COMPLETION REPORT 38.20.00 81.50.00 PAGE 1
PI# 47-T-0691 07/07/77 PERMIT 1692

W VA LINCOLN 17500 S 22550 W WELL CLASS D DO
STATE COUNTY FOOTAGE SPOT UNIT ELEV.
PENNZOIL CO 2 J V ALFORD HEIRS
OPERATOR WELL NO. LEASE NAME
709 GR DUVAL GRIFFITHSVILLE
OPER. ELEV. DISTRICT FIELD/POOL/AREA
API 47-043- 21692-00
COMMERCIAL ELEV. LEASE NO. PERMIT OR WELL I.D. NO.
07/28/1976 08/02/1976 ROTARY OIL
SPUD DATE COMP. DATE TYPE TOOL STATUS
2265 BEREA
PROJ. DEPTH PROJ. FORM. CONTRACTOR
DTD 2263 FM/TD DEVON SH
DRILLER'S T.D. LOG T.D. PLUG BACK T.D. OLD T.D. FORM./T.D.

CASING DATA

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

INITIAL POTENTIAL

IPU 5BOPD 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	1504	795-	BBG LIME	1690	981-
	BMACCRADY	1708	999-			
SPL	BB INJUN	1768	1059-	BCOFFEE	2188	1479-
	BBEREA	2209	1500-			

PRODUCTION TEST DATA

PTU 8BOPD 8MCFD
BEREA PERF 003
SOFR 563LBBS 26000LBS SAND
20/40 SD
ACID 750GALS
15%
INT NOT RPTD

MISCELLANEOUS

MAP QUAD ST ALBANS ACRES 165

DRILLING PROGRESS DETAILS

PENNZOIL CO

PI-WRS-RMR Form No. 338
Petroleum Information
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OG-10
Rev. 9-71

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NOV 16 1976
OIL & GAS DIVISION
DEPT. OF MINES

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

Rotary X Oil X
Cable ___ Gas X
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 Lewerentz 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 open flow 8,000 cu. ft. 8 bbls.
Final production 6,000 cu. ft. per day 5 bbls.
Well open ___ hrs. before test ___ RP.

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			

Well treatment details: 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 or 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		
McCrady Shale			1690	1708		
Big Injun			1708	1768		
Shale			1768	2160		
Coffee Shale			2160	2188		
Berea			2188	2209		
Shale			2209	2263		
Total Depth				2263		

(over)

* Indicate Electric Log tops in the remarks section.

4301692P

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 0F APPLICATION TO PLUG AND ABANDON A WELL

4) Surface Owner(s) to be served:
(a) Name: Larry & Pattie King ✓
Address: 730 Joe's Creek Road
Sod, WV 25564

(b) Name
Address

(c) Name
Address

6) Inspector: Jeffery L. Smith
Address: 5369 Big Tyler Road
Cross Lanes, WV 25313
Telephone

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

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

Subscribed and sworn before me this 20th day of June 2016
Notary Public
My Commission Expires NOVEMBER 2ND, 2021

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Office of Oil and Gas
AUG 10 2016
WV Department of Environmental Protection

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.

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:

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

_____ 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

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

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Office of Oil and Gas
JUN 20 2016
WV Department of
Environmental Protection

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

Notary Public

OFFICIAL SEAL
NOTARY PUBLIC, STATE OF WEST VIRGINIA
MARK J SCHALL
H G Energy LLC
PO Box 5519, Vienna, WV 26106
My Commission Expires November 2, 2021

My commission expires NOVEMBER 2ND, 2021

43 01692 P

Form WW-9

Operator's Well No. J V Alford 2

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 Inspector Date: 06/20/2016

Field Reviewed? (✓) Yes ( ) No

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WW-9- GPP
Rev. 5/16

Page _____ of _____
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
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

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

4301692P

WW-9- GPP
Rev. 5/16

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

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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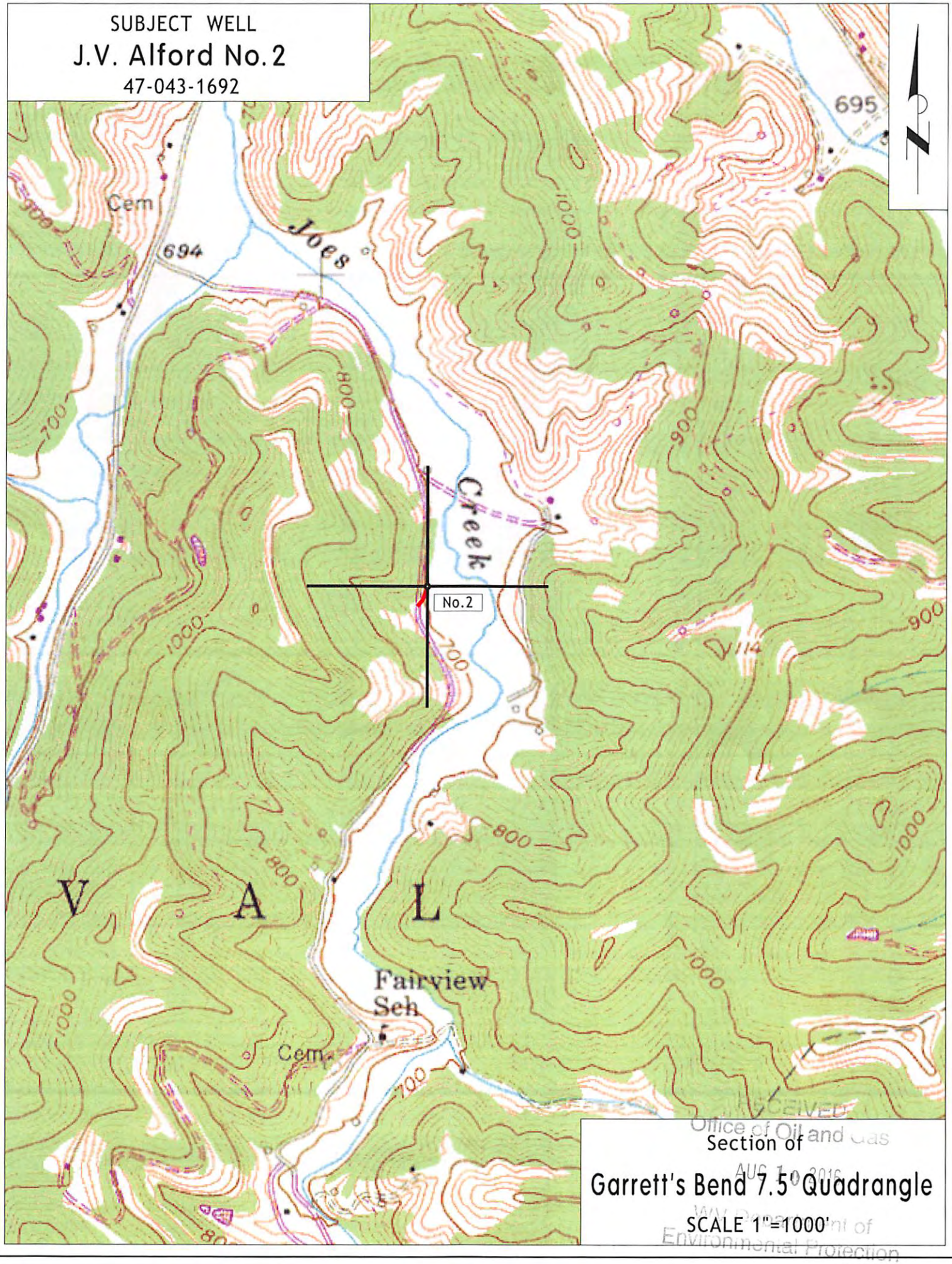

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AUG 1 0 2016
WV Department of
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4301692 P

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	___	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.

Diane White — Diane C. White — Designated Agent
Signature — Title

November 24, 2015
Date

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