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west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Wednesday, March 28, 2018  
WELL WORK PERMIT  
Horizontal / Re-Work

CUNNINGHAM ENERGY, LLC  
3230 PENNSYLVANIA AVENUE

CHARLESTON, WV 25302

Re: Permit approval for KING 18H  
47-015-02904-00-00

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: KING 18H  
Farm Name: TAYLOR, ROBERT  
U.S. WELL NUMBER: 47-015-02904-00-00  
Horizontal Re-Work  
Date Issued: 3/28/2018

A handwritten signature in blue ink, appearing to read "James A. Martin", is located to the right of the typed name and title.

## 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. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code §22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
2. Pursuant to 35 CSR 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
3. Pursuant to 35 CSR 4-19.1.c, if the operator is unable to sample and analyze any water well or spring with one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
5. 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.
6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours.
7. Well work activities shall not constitute a hazard to the safety of persons.
8. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced, drilling ceased, completion of any other permitted well work and completion of the well. Such notice shall be provided by sending an email to [DEPOOGNotify@wv.gov](mailto:DEPOOGNotify@wv.gov) within 30 days of commencement of drilling.

WW - 2B  
(Rev. 8/10)

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator: CUNNINGHAM ENERGY LLC 494508594 CLAY UNION ELKHURST 7.5  
Operator ID County District Quadrangle

2) Operator's Well Number: KING 18H 3) Elevation: 1,291

4) Well Type: (a) Oil  or Gas \_\_\_\_\_  
(b) If Gas: Production  / Underground Storage \_\_\_\_\_  
Deep \_\_\_\_\_ / Shallow

5) Proposed Target Formation(s): BIG INJUN Proposed Target Depth: 2,180 - Actual

6) Proposed Total Depth: 4,044' - Actual Feet Formation at Proposed Total Depth: BIG INJUN

7) Approximate fresh water strata depths: 200'

8) Approximate salt water depths: 1475' - 1525'

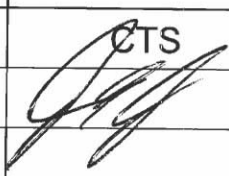
9) Approximate coal seam depths: NO COAL LISTED ON TITLE RECEIVED Office of Oil and Gas

10) Approximate void depths,(coal, Karst, other): NONE MAR 9 2018

11) Does land contain coal seams tributary to active mine? NONE WV Department of Environmental Protection

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)  
FRAC EXISTING WELL - WE PLAN TO RUN A 25 STAGE SAND/HYDRO FRAC UTILIZING  
PLUG AND PERF WIRELINE SERVICES

13) CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor	13 3/8"	LS	43.6LBS	30'	30'	CTS
Fresh Water	9 5/8"	LS	26LBS	425'	425'	CTS
Coal						
Intermediate	7"	AT-50	20LBS	2,651'	2,651'	CTS
Production	4 1/2"	N-80	11.6LBS	4,044'	4,044'	CTS
Tubing						
Liners						

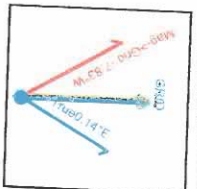
Packers: Kind: \_\_\_\_\_  
Sizes: \_\_\_\_\_  
Depths Set \_\_\_\_\_

CK# 11584  
Amts 1100  
Date 3/9/18



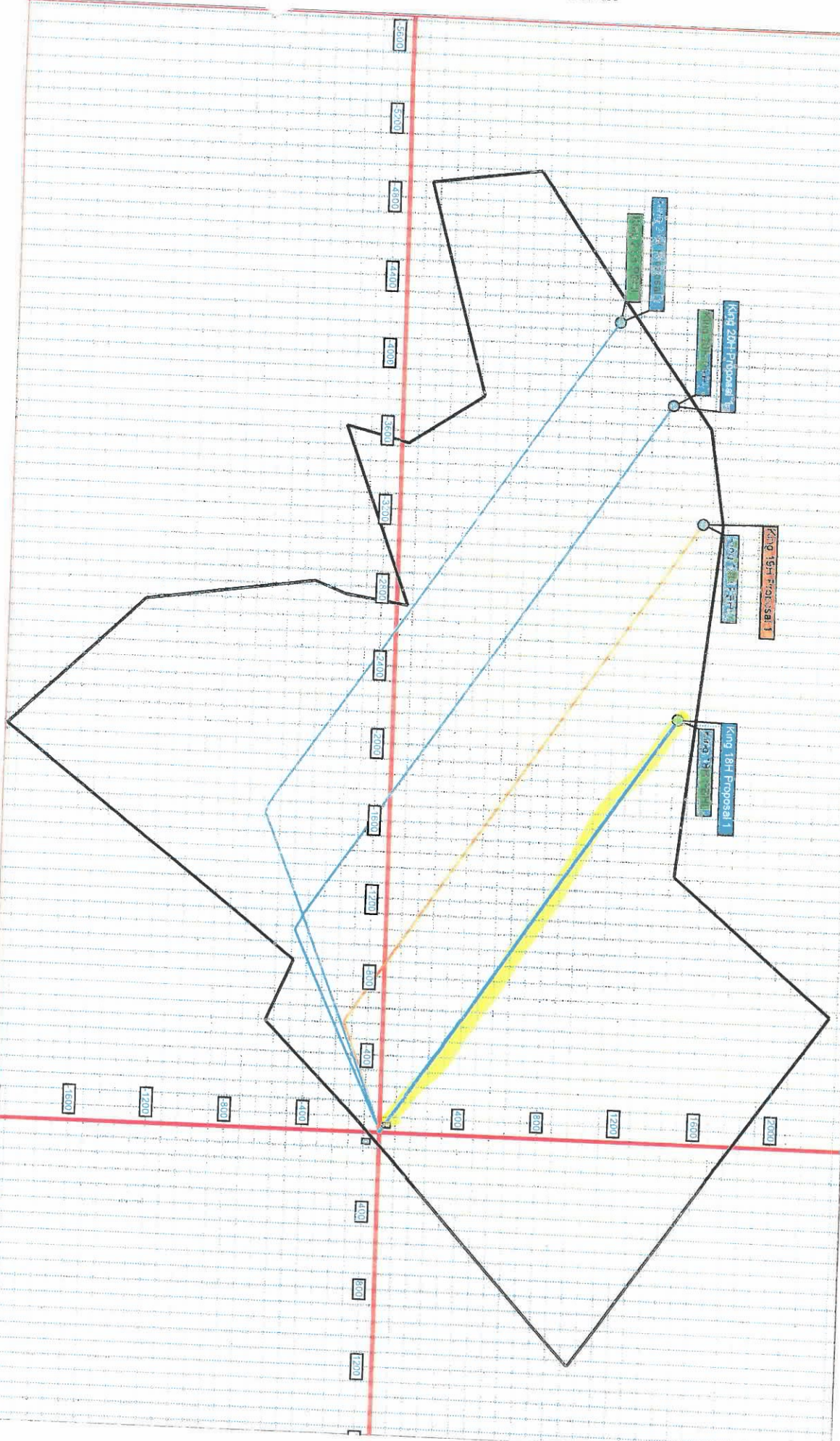


Job Number: King PAD  
 Company: Cunningham Energy  
 Lease/Well: King PAD  
 Location: Southern Zone  
 Rig Name:  
 State/County: West Virginia/ Clay  
 Country: USA  
 API Number:



Elevation (To MSL): 1291.00 ft  
 RKB: 9.00 ft  
 Projection System: US State Plane 1927 (Exact solution)  
 Projection Group: West Virginia South 4702  
 Projection Datum: CLARKE 1866  
 Magnetic Declination: -7.97  
 Grid Convergence: -0.14041 W  
 Date: Thursday, October 09, 2014

South - North



West - East

State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Well Operator's Report of Well Work

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Office of Oil and Gas

MAR 9 2018

WV Department of  
Environmental Protection

API 47 - 15 - 02904 County CLAY District UNION  
Quad ELKHURST 7.5' Pad Name KING Field/Pool Name \_\_\_\_\_  
Farm name ROBERT TAYLOR Well Number KING 18H  
Operator (as registered with the OOG) CUNNINGHAM ENERGY, LLC  
Address 3230 PENNSYLVANIA AVE City CHARLESTON State WV Zip 25302

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing \_\_\_\_\_ Easting \_\_\_\_\_

Elevation (ft) 1,291' GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine

Mud Type(s) and Additive(s)  
CLAY STABILIZER; E-Z MUD

Date permit issued 11/19/2014 Date drilling commenced 9/25/2017 Date drilling ceased 10/5/2017  
Date completion activities began N/A Date completion activities ceased N/A  
Verbal plugging (Y/N) \_\_\_\_\_ Date permission granted \_\_\_\_\_ Granted by \_\_\_\_\_

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 200' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1475'-1525' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft NONE OF RECORD Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by: \_\_\_\_\_



API 47-15 - 02904 Farm name ROBERT TAYLOR Well number KING 18H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	14 1/4"	13 3/8"	30'	NEW	LS - 43.6LBS	NONE	YES
Surface	12 1/4"	9 5/8"	425'	NEW	LS- 26LBS	NONE	YES
Coal							
Intermediate 1	8 3/4"	7"	2,651'	NEW	AT50 - 20LBS	NONE	YES
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	4,044'	NEW	N-80 - 11.6LBS	NONE	YES
Tubing							
Packer type and depth set							RECEIVED Office of Oil and Gas

Comment Details \_\_\_\_\_ MAR 9 2018

WV Department of Environmental Protection

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	CLASS I	10 - RIG	-	-		GROUND LEVEL	8
Surface	CLASS I	25	15.6	1.18	29.5	SURFACE	8
Coal							
Intermediate 1	CLASS I	304	15.6	1.19	361.76	SURFACE	12
Intermediate 2							
Intermediate 3							
Production	CLASS I	250	14.3	1.27	317.50	SURFACE	12
Tubing							

Drillers TD (ft) <sup>4,044'</sup> \_\_\_\_\_ Loggers TD (ft) <sup>4,044'</sup> \_\_\_\_\_  
 Deepest formation penetrated <sup>BIG INJUN</sup> \_\_\_\_\_ Plug back to (ft) \_\_\_\_\_  
 Plug back procedure \_\_\_\_\_

Kick off depth (ft) <sup>1,383'</sup> \_\_\_\_\_

Check all wireline logs run  caliper  density  deviated/directional  induction  
 neutron  resistivity  gamma ray  temperature  sonic

Well cored  Yes  No  Conventional  Sidewall Were cuttings collected  Yes  No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS FRAC HAS NOT BEEN COMPLETED TO DATE

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_



WR-35  
Rev. 8/23/13

API 47- 15 - 02904 Farm name ROBERT TAYLOR Well number KING 18H

PRODUCING FORMATION(S)	DEPTHS	
NONE TO DATE - AWAITING FRAC	TVD	MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump  
 SHUT-IN PRESSURE Surface \_\_\_\_\_ psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs  
 OPEN FLOW Gas \_\_\_\_\_ mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ bpd GAS MEASURED BY  
 Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
SAND/SHALE	0	416'	0		
SAND	416'	533'			
SAND/SHALE	533'	1383'			
SALT SANDS			1383'	1754'	
SAND/SHALE			1754'	1925'	
LITTLE LIME			1925'	1935'	
PENCIL CAVE			1935'	2010'	
BIG LIME			2010'	2180'	
BIG INJUN			2180'	4410'	

Please insert additional pages as applicable.

Drilling Contractor CUNNINGHAM ENERGY, LLC  
 Address 3230 PENN AVENUE City CHARLESTON State WV Zip 25302

Logging Company PRECISE WELL ANALYSIS, LLC  
 Address 276 BF GOODRICH RD City MARIETTA State OH Zip 45750

Cementing Company C&J ENERGY SERVICES  
 Address 580 HAWTHORN DRIVE City NORTON State VA Zip 24273

Stimulating Company \_\_\_\_\_  
 Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Please insert additional pages as applicable.

Completed by DANIELLE BOGGS Telephone 304-344-9291  
 Signature Dan N. Boggs Title OPS MGR. Date 3/8/2018

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry



COAL OPERATOR, OWNER, OR LESSEE WAIVER

County CLAY  
Operator CUNNINGHAM ENERGY, LLC Operator's Well Number KING 18H

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

To the coal operator, owner, or lessee named on page WW2-A. You are hereby notified that any objection you wish to make or are required to make by WV Code 22-6-15, 16 or 17, must be filed with the Chief of the Office of Oil and Gas within fifteen (15) days after the receipt of this application by the Office. Mail objections to:

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0499 extension 1654

WAIVER

The undersigned coal operator \_\_\_\_/ owner \_\_\_\_/ lessee \_\_\_\_/ of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

	Date		Company Name	
Signature			By	
			Its	Date
			Signature	Date

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Office of Oil and Gas

MAR 9 2018

WV Department of  
Environmental Protection

WW-2A  
(Rev. 6-14)

1.) Date: MARCH 8, 2018  
2.) Operator's Well Number KING 18H  
State County Permit  
3.) API Well No.: 47- 15 - 02904

**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE AND APPLICATION FOR A WELL WORK PERMIT**

4) Surface Owner(s) to be served:  
(a) Name ROBERT TAYLOR  
Address 1967 BOMONT RD.  
BOMONT, WV 25030  
(b) Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Name \_\_\_\_\_  
Address \_\_\_\_\_  
6) Inspector JEREMY JAMES  
Address P.O. BOX 36  
CLENDENIN, WV 25045  
Telephone 304-951-2596

5) (a) Coal Operator  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
(b) Coal Owner(s) with Declaration  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Coal Lessee with Declaration  
Name \_\_\_\_\_  
Address \_\_\_\_\_

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WV Department of  
Environmental Protection

**TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:**

OR Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas

X Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

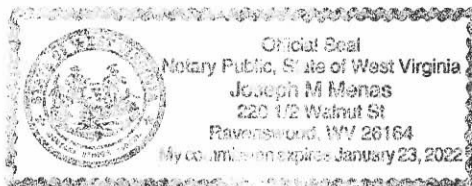
I certify that as required under Chapter 22-6 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through \_\_\_ on the above named parties by:

- Personal Service (Affidavit attached)
- X   Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 35 CSR 4, and I agree to the terms and conditions of any permit issued under this application.

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, 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 and imprisonment.



Well Operator CUNNINGHAM ENERGY, LLC  
By: RYAN E.M. CUNNINGHAM  
Its: PRESIDENT  
Address: 3230 PENN. AVE.  
CHARLESTON, WV 25302  
Telephone: 304-344-9291  
Email: dani.bays@cunninghamenergy.com

Subscribed and sworn before me this 8th day of MARCH, 2018

Joseph Menas Notary Public  
My Commission Expires January 23, 2022

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)

WW-2A Surface Waiver  
(4/16)

SURFACE OWNER WAIVER

County 15 - CLAY

Operator  
Operator well number

Cunningham Energy  
2018 47-1502904  
KING 18H

**INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW2-A**

The well operator named on page WW2A is applying for a permit from the State to do oil or gas well work. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

**NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

**WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:**

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0450

**Time Limits and methods for filing comments.** The law requires these materials to be served on or before the date the operator files his Application. You have **FIFTEEN (15) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

**Comments must be in writing.** Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

- 1) The proposed well work will constitute a hazard to the safety of persons.
- 2) The soil erosion and sediment control plan is not adequate or effective;
- 3) Damage would occur to publicly owned lands or resources;
- 4) The proposed well work fails to protect fresh water sources or supplies;
- 5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation..."

**If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.**

**List of Water Testing Laboratories.** The Office maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Chief to obtain a copy.

**VOLUNTARY STATEMENT OF NO OBJECTION**

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application for a Well Work Permit on Form WW2-A, and attachments consisting of pages 1 through \_\_\_ including a work order on Form WW2-B, a survey plat, WW-9, and a soil and erosion plan, all for proposed well work on my surface land as described therein.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

Signature \_\_\_\_\_ Date 03/08/201  
02905

Company Name \_\_\_\_\_  
By \_\_\_\_\_  
Its \_\_\_\_\_

RECEIVED  
Office of  
MAR 9 2018  
WV Department of  
Environmental Protection  
Date

Print Name

Signature

Date

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6, Section 8(d)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
CUNNINGHAM ENERGY, LLC	CUNNINGHAM ENERGY, LLC	1/8	210/58

**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**


The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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MAR 9 2018  
WV Department of  
Environmental Protection

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator:  
By: Its:

  
CUNNINGHAM ENERGY, LLC  
PRESIDENT



WW-2B1  
(5-12)

Well No. KING 18H

West Virginia Department of Environmental Protection  
Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing. The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore, if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

Be advised, you have the right to sample and analyze any water supply at your own expense.

Listed below is the laboratory chosen by operator to perform analysis, and contactor chosen to collect sample.

Certified Laboratory Name STURM ENVIRONMENTAL  
Sampling Contractor HUPP SURVEYING

Well Operator CUNNINGHAM ENERGY, LLC  
Address 3230 PENN. AVE.  
CHARLESTON, WV 25302  
Telephone 304-344-9291

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underling which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site, the Chief may require the operator to test wells up to 2000 feet from the proposed site.

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Office of Oil and Gas  
MAR 9 2018  
WV Department of  
Environmental Protection

**HUPP Surveying & Mapping**  
P.O. BOX 647  
GRANTSVILLE, WV 26147  
(304) 354-7035 [hupp@frontiernet.net](mailto:hupp@frontiernet.net) FAX: (304) 354-6548

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June 2, 2014

RE: Water Samples for King 18H

There appears to be one (1) potable water sources within 1,500' of King 18H, therefore tests should be offered and samples taken as required.

1. Robert Wayne Taylor  
1967 Bomont Rd.  
Bomont, WV 25030  
Tax Map 17 Parcels 46 & 47

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Office of Oil and Gas  
MAR 9 2018  
WV Department of  
Environmental Protection

WW-9  
(5/16)

API Number 47 - 015 \_02904  
Operator's Well No. KING 18H

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name CUNNINGHAM ENERGY, LLC OP Code 494508594

Watershed (HUC 10) TRIBUTARY OF WADE FORK Quadrangle ELKHURST 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: N/A - PITS EXISTING FOR THIS PAD ARE CLOSED.

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 NO LAND APPLICATION.)

*ANY WELL EFFLUENT MUST BE DISPOSED OFF SITE, PROPERLY, 90m*

Will closed loop system be used? If so, describe: STEEL PITS WILL BE UTILIZED FOR FRAC PURPOSES

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

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

Additives to be used in drilling medium? N/A

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. N/A

-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.

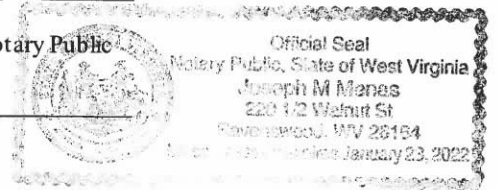
Company Official Signature \_\_\_\_\_  
Company Official (Typed Name) RYAN E. M. CUNNINGHAM  
Company Official Title PRESIDENT

RECEIVED  
Office of Oil and Gas  
MAR 9 2018

Subscribed and sworn before me this 8TH day of MARCH, 2018

Joseph Menas  
My commission expires January 23, 2022

Notary Public



WV Department of Environmental Protection

Proposed Revegetation Treatment: Acres Disturbed 2.75 Prevegetation pH \_\_\_\_\_

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20 OR EQUIVALENT

Fertilizer amount 1/3 TON lbs/acre

Mulch HAY - 2 Tons/acre

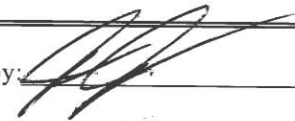
Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
KY 31	40	ORCHID GRASS	15
ALSIKE CLOVER	5	ALSIKE CLOVER	5
ANNUAL RYE	15		

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: 

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

Title: Inspector OOG Date: 03/08/2018

Field Reviewed? (  ) Yes (  ) No



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

Operator Name: CUNNINGHAM ENERGY, LLC

Watershed (HUC 10): TRIBUTARY OF PORTER CREEK, TRIBUTARY OF WADE FORK OF LITTLE SYCAMORE, IN THE ELK WATERSHED

Quad: ELKHURST 7.5

Farm Name: ROBERT TAYLOR

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

There will be no pit utilized on this permit. Steel tanks will be utilized.  
  
NO LAND APPLICATION OF FLUIDS. gwm

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

Steel tanks will be utilized for the proposed well work and will be monitored during the entire process.

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

The pad for this well is positioned upon a ridgetop area near the topographic drainage divide, at an approximate equidistant 1000 feet from the headwater area of an unnamed tributary of Porter Creek at the Northwest.

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

Well drilling, associated casing installation and cementing, well stimulation, and other typical activities.

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

No existing groundwater quality data is known to be currently available for this site.

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

No waste material originating from this well wite will be used for either deicing purposes or as fill material upon the property.

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.

The groundwater protection instruction and training for employees will include required reading of this GPP. The GPP will also be discussed in employee meetings and new employees will be required to review the GPP.

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

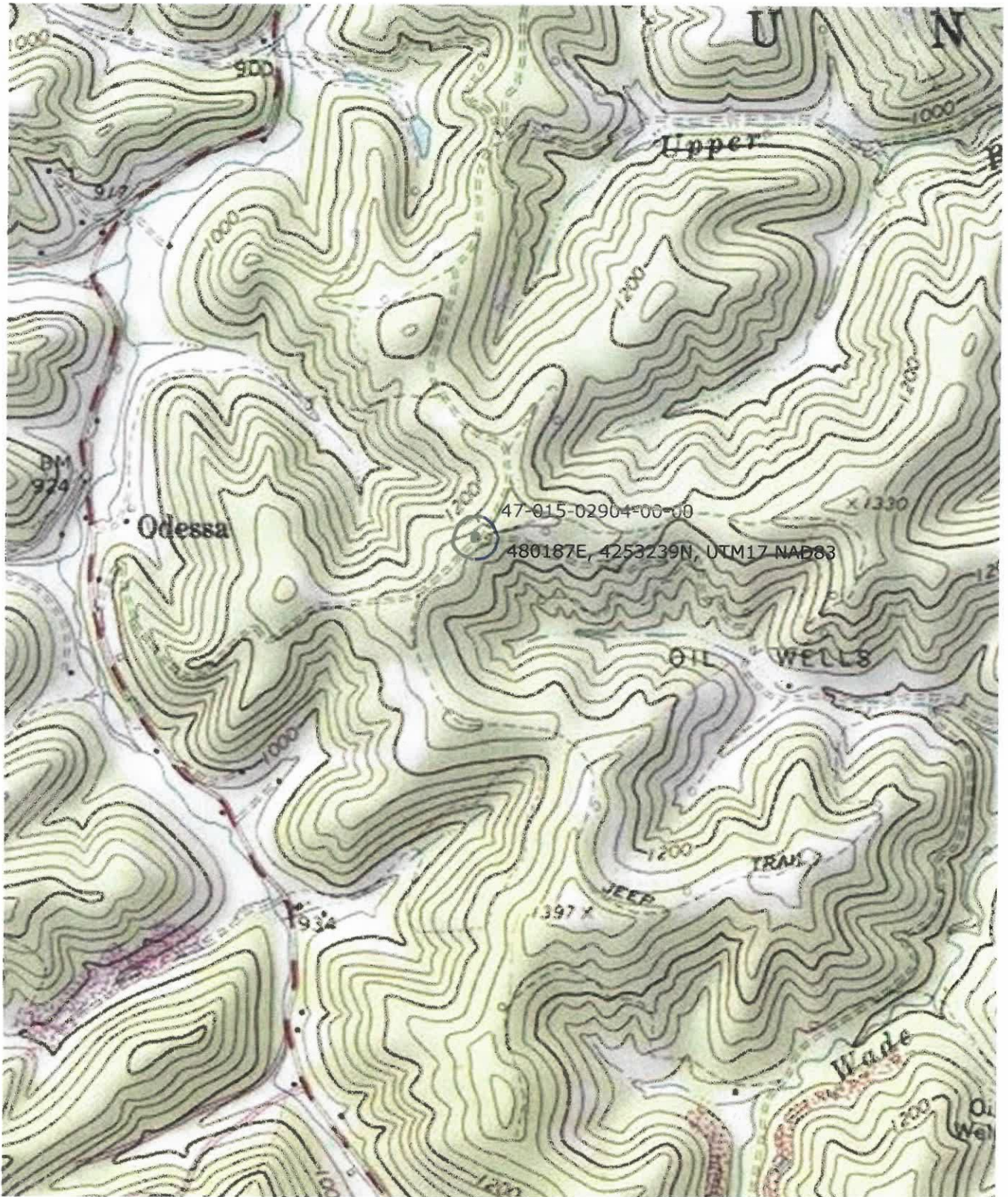
The well operator will perform quarterly self-inspections of respsective equipment and all GPP elements.

Signature: 

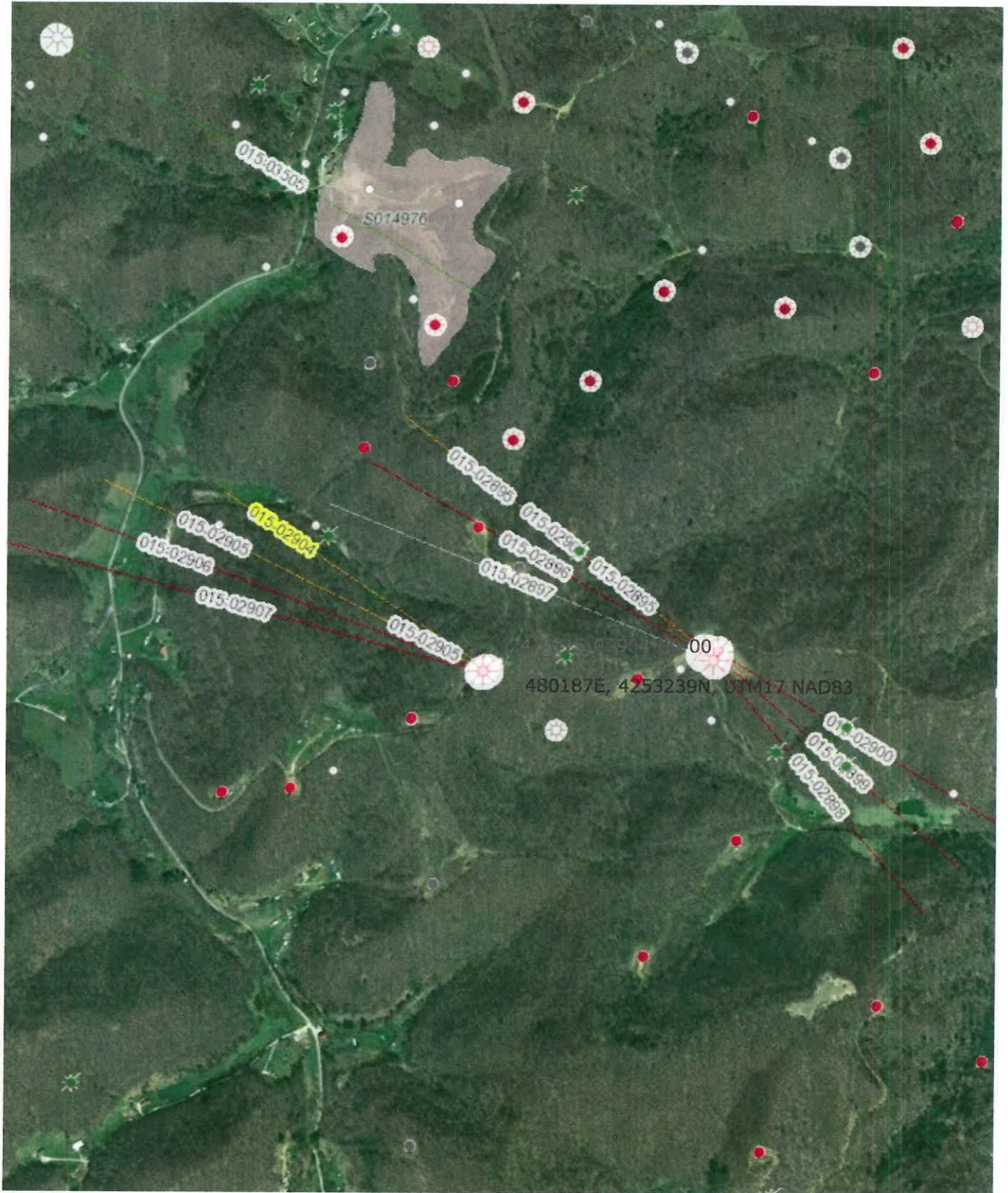
Date: 03/08/2018

RECEIVED  
Office of Oil and Gas  
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WV Department of  
Environmental Protection



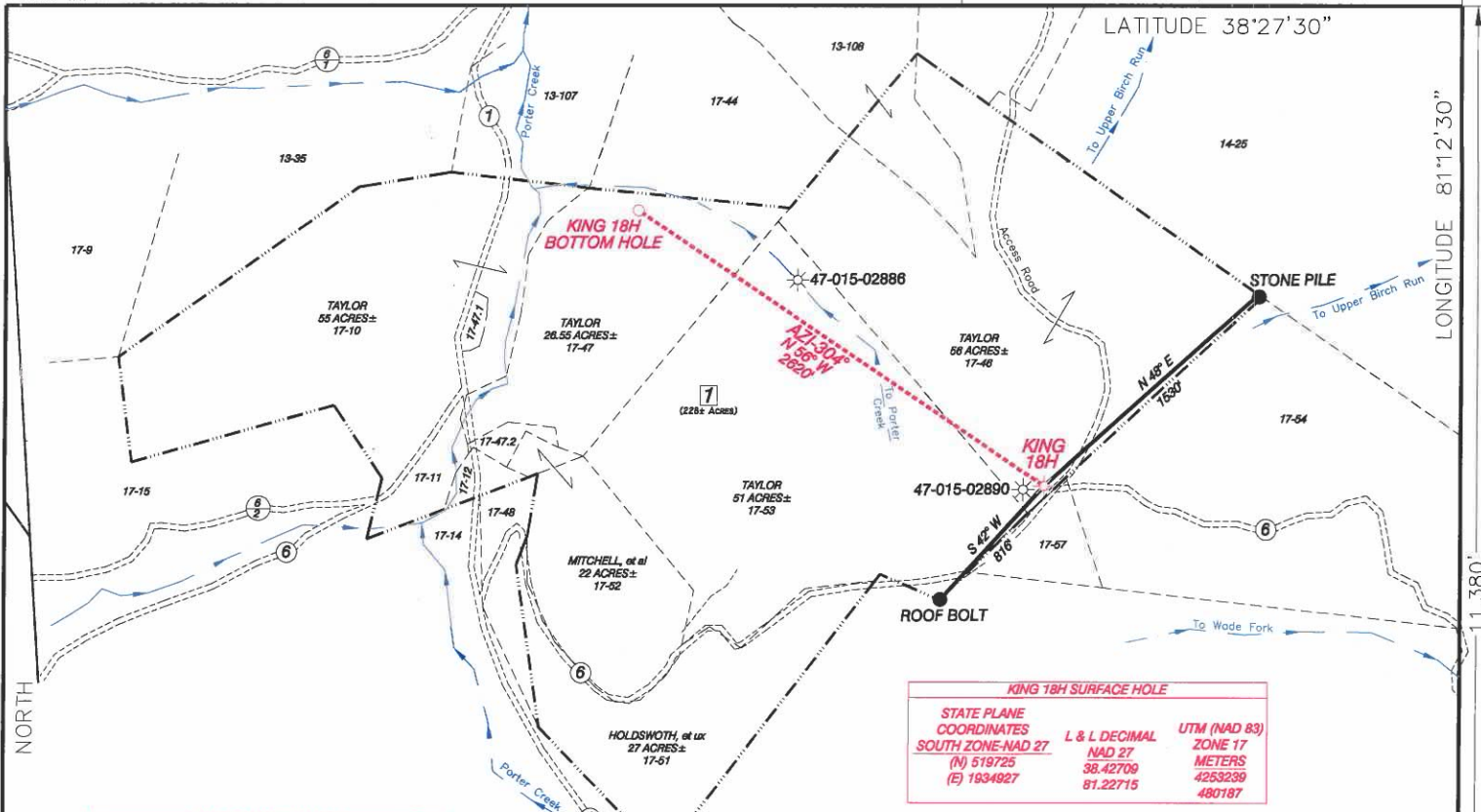








15-02904HW



LONGITUDE 81°12'30"

11,380'

LAT. 38°25'37.6"

KING 18H BOTTOM HOLE		
STATE PLANE COORDINATES SOUTH ZONE-NAD 27	L & L DECIMAL NAD 27	UTM (NAD 83) ZONE 17 METERS
(N) 521184	38.43108	4253683
(E) 1932751	81.23476	479524

KING 18H SURFACE HOLE		
STATE PLANE COORDINATES SOUTH ZONE-NAD 27	L & L DECIMAL NAD 27	UTM (NAD 83) ZONE 17 METERS
(N) 519725	38.42709	4253239
(E) 1934927	81.22715	480187

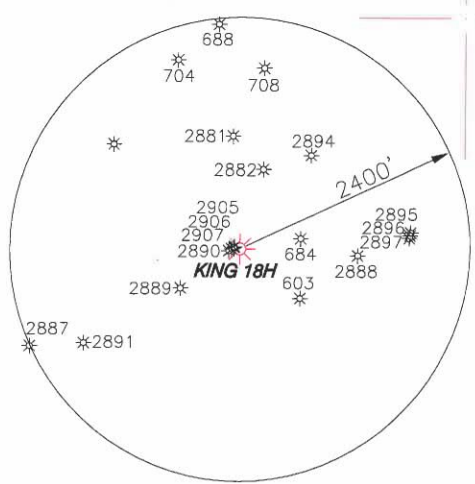
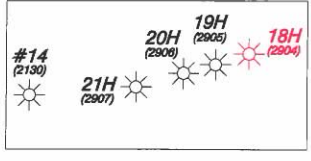
RECEIVED Office of Oil and Gas

MAR 13 2018

WV Department of Environmental Protection

KING 18H		
LEASE	LESSOR	ACREAGE
1	CUNNINGHAM ENERGY, LLC.	228±

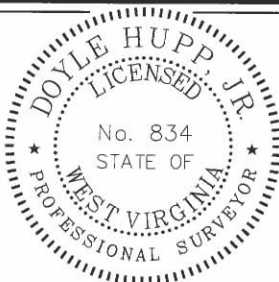
LINE LEGEND	
LEASE BOUNDARY	---
SURFACE BOUNDARY	----
CREEK/STREAM	→→→
ROADS	=====
PROPOSED LATERAL	.....
500' LATERAL OFFSET	.....



- NOTES ON SURVEY**
- NO DWELLINGS WITHIN 625' WERE FOUND.
  - NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250' WERE FOUND.
  - TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
  - WELL LAT./LONG. ESTABLISHED BY SG-GPS(OPUS).
  - SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF CLAY COUNTY IN JANUARY, 2014 AND INFORMATION PROVIDED BY CUNNINGHAM ENERGY, LLC.
  - WELLS SHOWN ARE TAKEN FROM RECORDS OF WVDEP.

**KING 18H (47-015-02904)**

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
 DATE MARCH 12, 20 18  
 OPERATORS WELL NO. KING 18H  
 API WELL NO. 47-015-02904  
 STATE COUNTY PERMIT

P.S. 834  
**HUPP Surveying & Mapping**  
 P.O. Box 647 Grantsville, WV 26147  
 (304) 354-7035 EMAIL: hupp@frontiernet.net

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. W2138 (BK71-1)  
 PROVEN SOURCE OF ELEVATION SG-GPS (OPUS) SCALE 1" = 1000'

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



WELL TYPE : OIL  GAS \_\_\_\_\_ LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_ IF "GAS" PRODUCTION  STORAGE \_\_\_\_\_ DEEP  SHALLOW \_\_\_\_\_

LOCATION : ELEVATION 1288' WATERSHED TRIBUTARY OF PORTER CREEK  
 DISTRICT UNION COUNTY CLAY QUADRANGLE ELKHURST 7.5'

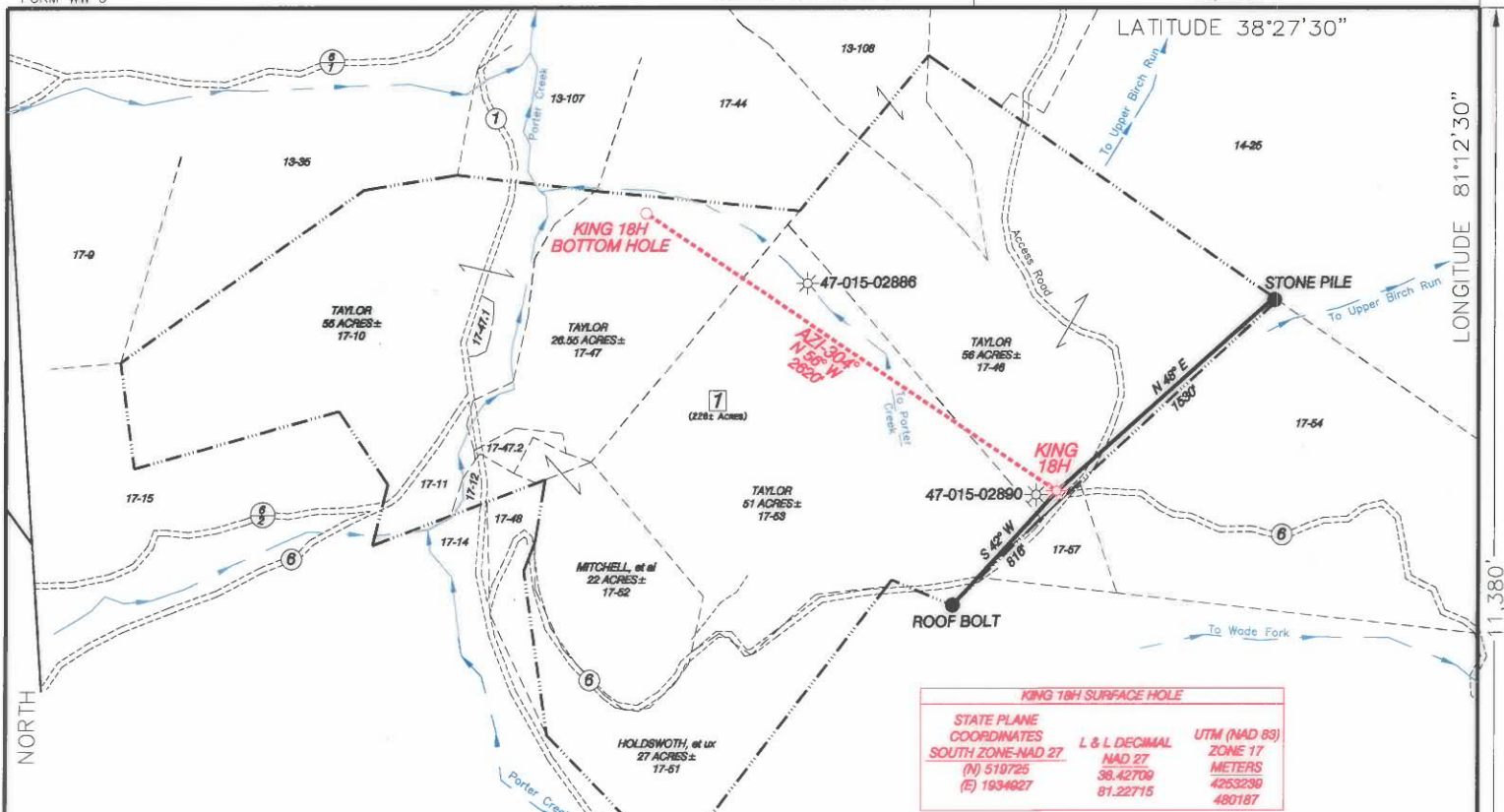
SURFACE OWNER ROBERT TAYLOR ACREAGE 51±  
 ROYALTY OWNER CUNNINGHAM ENERGY, LLC. LEASE ACREAGE 228±

PROPOSED WORK : LEASE NO. \_\_\_\_\_  
 DRILL \_\_\_\_\_ CONVERT \_\_\_\_\_ DRILL DEEPER \_\_\_\_\_ REDRILL \_\_\_\_\_ FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION \_\_\_\_\_ PERFORATE NEW FORMATION \_\_\_\_\_ PLUG AND ABANDON \_\_\_\_\_ CLEAN OUT AND REPLUG \_\_\_\_\_ OTHER \_\_\_\_\_  
 PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_ TARGET FORMATION BIG INJUN  
 ESTIMATED DEPTH TVD- 2,150' MD-5,200'

WELL OPERATOR CUNNINGHAM ENERGY, LLC. DESIGNATED AGENT RYAN CUNNINGHAM  
 ADDRESS 3230 PENNSYLVANIA AVE. CHARLESTON, WV 25302 ADDRESS 3230 PENNSYLVANIA AVE. CHARLESTON, WV 25302

COUNTY NAME PERMIT



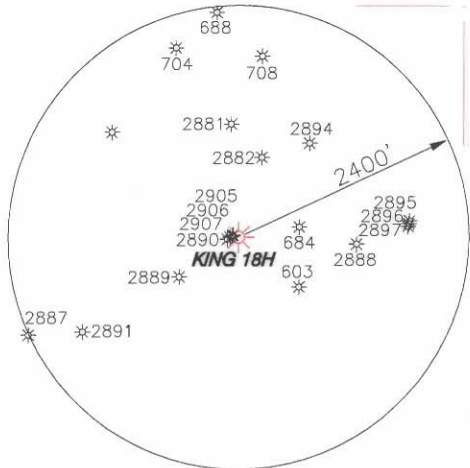
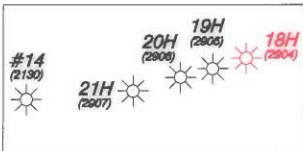


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LEASE BOUNDARY	---
SURFACE BOUNDARY	----
CREEK/STREAM	~ ~ ~ ~
ROADS	==
PROPOSED LATERAL	----
500' LATERAL OFFSET	.....



**KING 18H**  
**(47-015-02904)**

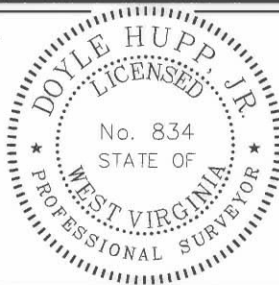
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P.S. 834

*[Signature]*

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(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE MARCH 12, 2018

OPERATORS WELL NO. KING 18H

API WELL NO. 47-015-02904 HW  
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. W2138 (BK71-1)  
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