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west virginia department of environmental protection

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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

## PERMIT MODIFICATION APPROVAL

July 28, 2014

CUNNINGHAM ENERGY, LLC  
3230 PENNSYLVANIA AVENUE  
CHARLESTON, WV 25302

Re: Permit Modification Approval for API Number 1502896 , Well #: J.S. COCHRAN #5H  
**SEE ATTACHED LETTER IN FILE**

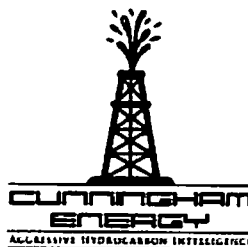
Oil and Gas Operator:

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

Gene Smith  
Assistant Chief of Permitting  
Office of Oil and Gas



Mr. Jeffrey McLaughlin  
DEP Office of Oil and Gas

Re: J.S. Cochran 5H  
API #47-0152896

Mr. McLaughlin:

I would like to request a Modification to the permit issued for the J.S. Cochran 5H based on the following changes/new form submissions:

WW-2B - Which has been changed from using the Packers Plus system to simply cementing the 4 ½" casing back to surface and otherwise using the same frac plan as previously permitted.

WW-9 – This has been changed to reflect that the pit water remaining in the pit was used for land application however during the drilling process water was hauled to a disposal well when needed.

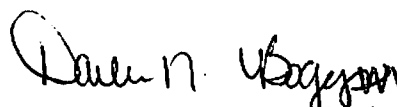
Please also see attached a new plan for the monitoring/plugging of wells within the radius of the new drills so that we might avoid any communication issues. The only changes to this letter are that the King #1 (47-01502894) and will be plugged prior to fracking the new wells and that the King #1 (47-01500704) will be monitored during this process rather than being plugged as previously suggested.

Please let me know if this is acceptable and if you should need anything further.

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Office of Oil and Gas

Thank you,

MAY 22 2014

  
Danielle N. Boggs  
Operations Manager  
Cunningham Energy, LLC

Department of  
Environmental Protection

# 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

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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 within 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. Hydraulic Fracturing of the Cochran # 5H (API: 47-015-02896) must not exceed 3500 PSI and abide by the terms of the Fracking Plan Addendum attached to this permit.
9. Notification must be given to the local inspector at least five (5) days before fracturing and it must include a copy of the Cochran # 5H Hydraulic Fracturing Plan.

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 - 15 UNION - 5 ELKHURST 7.5  
Operator ID County District Quadrangle

2) Operator's Well Number: J.S.COCHRAN 5H 3) Elevation: 1,215'

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

5) Proposed Target Formation(s): BIG INJUN Proposed Target Depth: 2100'

6) Proposed Total Depth: 5,143' Feet Formation at Proposed Total Depth: 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

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

11) Does land contain coal seams tributary to active mine? NONE

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)

DRILL AND STIMULATE A NEW SHALLOW HORIZONTAL WELL

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MAY 22 2014

13) **CASING AND TUBING PROGRAM**

TYPE	SPECIFICATIONS			FOOTAGE For Drilling	INTERVAL Left in Well	CEMENT Fill up (Cement)
	Size	Grade	Weight per ft			
Conductor	13"	LS	43.6 LBS	30	30	CTS
Fresh Water	9 5/8"	LS	26 LBS	400'	400'	CTS
Coal						
Intermediate	7"	J-55	20 LBS	1775'	1775'	CTS
Production	4 1/2"	N-80	11.6 LBS	5143'	5143'	CTS
Tubing						
Liners						

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

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1502896 H

MAR 17 2014  
WV Department of  
Environmental Protection



## FRACKING PLAN ADDENDUM

Mr. Jeffrey McLaughlin  
WV DEP Office of Oil and Gas

Re: Plan for Horizontal Wells on the J.S. Cochran Lease

Mr. McLaughlin –

The following wells have been identified for plugging before fracking can commence on our planned shallow horizontal wells in Clay County:

King #1 – 47-01500704  
King #4 – 47-01502894

Please see proposed Plugging Permit Applications attached.

The following wells are producing wells at the same elevation that we plan to remove surface equipment from if not rated for the frac pressure we plan to run, we will replace this surface equipment with valves during the planned fracs and monitor these locations:

Harshbarger 1A – 47-01502884  
J.S. Cochran #1 – 47-0150684  
J.S. Cochran #2 – 47-01502883  
J.S. Cochran #3 – 47-01502888  
King #5 – 47-01502882  
King #6 – 47-01502881  
King #14 – 47-01502890

Thank you for your time and attention to this matter.

Allen Pettey  
Cunningham Energy, LLC  
3230 Pennsylvania Avenue  
Charleston, WV 25302  
304-344-9291

1502896H



Attn: Production Manager  
Rouzer Oil Company  
301 1st National Bank Building  
Spencer, WV 25276  
Certified Mail #: 7012 3460 0002 4924 2530

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MAR 17 2014

WV Department of  
Environmental Protection

Re: Reed & Davenport  
API #: 47-0150708

Dear Sirs:

We would ask that this letter serve as notice that Cunningham Energy, LLC plans to fracture 3 new shallow horizontal wells on our J.S. Cochran Lease which falls within 500 ft. of one of your currently operational wells, listed as the Reed & Davenport assigned API# 47-0150708. I have attached the original well record as provided by the DEP for your reference.

We are still in the process of drilling these wells and will give you a definitive frac date when that becomes available. However, by order of the WV DEP OOG we ask that during the frac process you monitor your well for any possible communication issues. We will be doing the same in the area at that time on our existing wells to prevent the same.

If you should have any further questions or concerns, please feel free to contact our office. Thank you for your time and attention to this matter.

Sincerely,

A handwritten signature in black ink that reads "Danielle N. Boggs". The signature is written in a cursive, flowing style.

Danielle N. Boggs  
Operations Manager  
Cunningham Energy, LLC

WW-9  
(5/13)

Page \_\_\_\_\_ of \_\_\_\_\_  
API Number 47 -015 -02896  
Operator's Well No. J.S. COCHRAN 5H

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'

Elevation 1,215' County CLAY District UNION

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

Will a pit be used for drill cuttings? Yes X No \_\_\_\_\_

If so, please describe anticipated pit waste: DRILL CUTTINGS, FLUIDS FROM DRILLING AND FRACTURING

Will a synthetic liner be used in the pit? Yes X No \_\_\_\_\_ If so, what ml.? 30 MIL.

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number 2D0392210 - IF NEEDED )
- Reuse (at API Number \_\_\_\_\_)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain \_\_\_\_\_)

Will closed loop system be used? NO

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. AIR; FRESHWATER

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

Additives to be used in drilling medium? SOAP; KCL and/or CLAY STABILIZER

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. LEAVE IN PIT/ HAUL IF NEEDED **RECEIVED**  
**Office of Oil and Gas**

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

-Landfill or offsite name/permit number? CITY OF CHARLESTON LANDFILL **MAY 22 2014**

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. 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 \_\_\_\_\_

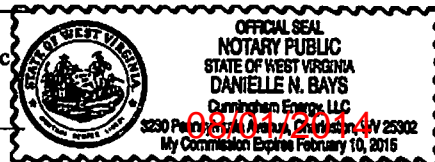
Company Official (Typed Name) RYAN E.M. CUNNINGHAM

Company Official Title PRESIDENT

Subscribed and sworn before me this 12<sup>th</sup> day of MAY, 20 14

Danielle N. Bays Notary Public

My commission expires 05/12/2014



Form WW-9

Operator's Well No. J.S. COCHRAN 5H

**CUNNINGHAM ENERGY, LLC**

Proposed Revegetation Treatment: Acres Disturbed 2.8 Prevegetation pH \_\_\_\_\_

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 1/3 TON lbs/acre (500 lbs minimum)

Mulch HAY - 2 Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
KY 31	40	ORCHID GRASS	15
ALSIKE CLOVER	5	ALSIKE CLOVER	5
ANNUAL RYE	15		

Attach:  
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: \_\_\_\_\_

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

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WV Department of  
Environmental Protection

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Field Reviewed? ( ) Yes ( ) No



WW-2A Surface Waiver

SURFACE OWNER WAIVER

County CLAY

Operator

CUNNINGHAM ENERGY, LLC

Operator well number

J.S. COCHRAN 5H

**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 a 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 4 including a work order on Form WW2-B, a survey plat, 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.

Jean E. Miller  
Signature  
Jean Miller

Date 5-9-14

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

Print Name

Signature

Date



Mr. Jeffrey McLaughlin  
WV DEP Office of Oil and Gas

Re: J.S. Cochran 4H, 5H, 6H, 7H, 8H and 9H Application Requests

Mr. McLaughlin:

The following wells have been identified for plugging before fracking can commence on our planned shallow horizontal wells in Clay County:

King #1 – 47-01502886 – Plugging Permit pending.

King #4 – 47-01502894 – Plugging Permit Issued.

Plugging permit applications have been approved by Inspector Gainer and have been submitted for full approval.

The following wells are producing wells at the same elevation that we plan to remove surface equipment from if not rated for the frac pressure we plan to run, we will replace this surface equipment with valves during the planned fracs and monitor these locations:

Harshbarger 1A – 47-01502884

J.S. Cochran #1 – 47-0150684

J.S. Cochran #2 – 47-01502883

J.S. Cochran #3 – 47-01502888

King #5 – 47-01502882

King #6 – 47-01502881

King #14 – 47-01502890

Young #2 – 47-0150688

King #1 – 47-01500704 – This well was previously identified for plugging however after review of the casing schedule we believe that this well can be monitored. We have sent notice to Charles Young via Certified Mail on 5/12/2014 and will work with him in any way to proceed with this monitoring.

In the opinion of Jim Rose, Petroleum engineer with Producers Service Corp, the treating pressures will be around 3000 psi. They will be using small stages at low rates.

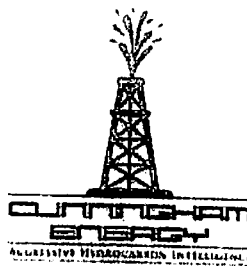
All other third party wells were identified and producers were previously contacted.

Sincerely,

Danielle Boggs  
Cunningham Energy, LLC

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MAY 22 2014

WV Department of  
Environmental Protection



Mr. Charles W. Young  
Charles W. Young Construction Services  
29 Apple Valley Drive  
Bomont, WV 25030  
Certified Mail #: 7012 3460 0002 4924 2523

April 24, 2014

Re: George King #1  
API #47-0150704

Dear Mr. Young –

We would ask that this letter serve as notice that Cunningham Energy, LLC plan to fracture 3 new shallow horizontal wells on our J.S. Cochran Lease which falls within 500 ft. of one of your currently operational wells, listed as the George King #1 assigned API #47-0150704. I have attached the original well record as provided by the DEP for your reference.

We are still in the process of drilling these wells and will give you a definitive frac date when that becomes available. However, by order of the WV DEP OOG we ask that during the frac process you monitor your well for any possible communication issues. We will be doing the same in the area at that time on our existing wells to prevent the same.

If you should have any further questions or concerns, please feel free to contact our office. Thank you for your time and attention to this matter.

Sincerely,

Danielle N. Boggs  
Operations Manager  
Cunningham Energy, LLC

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CHARLESTON WV MPO 25030  
MAY 1 2014

K-1 (704)

Sent To \_\_\_\_\_  
 Street, Apt. No.,  
 or PO Box No.  
 City, State, ZIP+4

**Mr. Charles W. Young**  
**Charles W. Young Construction**  
**29 Apple Valley Drive**  
**Bomont, WV 25030**

PS Form 3800, August 2006 See Reverse for Instructions

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