west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

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

December 17, 2014

WELL WORK PERMIT

Fracture

This permit, API Well Number: 47-1502888, issued to CUNNINGHAM ENERGY, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days 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.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-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) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: J.S. COCHRAN 3
Farm Name: CONNER , CHESSIE ,ET AL.
API Well Number: 47-1502888
Permit Type: Fracture
Date Issued: 12/17/2014

Promoting a healthy environment.

PERMIT CONDITIONS

West Virginia Code §22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. 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 on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

9. Be advised that if you drill a horizontal gas well other than a coalbed methane well, which disturbs three acres or more of surface, excluding pipelines, gathering lines and roads, or utilizes more than two hundred ten thousand gallons of water in any thirty day period it would require a permit/bond under Chapter 22-6A.

WW - 2B
(Rev. 8/10)

CK9077 550.00 47-015-02888

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

1) Well Operator: CUNNINGHAM ENERGY, LLC

494485865	CLAY - 15	UNION-05	ELKHURST 7.5'
Operator ID	County	District	Quadrangle

2) Operator's Well Number: J.S. COCHRAN #3 3) Elevation: 1,237'

4) Well Type: (a) Oil X or Gas X

(b) If Gas: Production X / Underground Storage _____

Deep _____ / Shallow X

5) Proposed Target Formation(s): BEREA Proposed Target Depth: 2,150'
6) Proposed Total Depth: 3,000' Feet Formation at Proposed Total Depth: 2,150'
7) Approximate fresh water strata depths: 200'
8) Approximate salt water depths: 1150' - 1650'

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? NO

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)
PERFORM A SINGLE STAGE WATER FRAC ON AN EXISTING WELL

10/6/14

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OCT 27 2014
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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"	J55	42 LBS.	30'	EXISTING	SURFACE
Fresh Water	9 5/8"	J55	29 LBS.	377'	EXISTING	SURFACE
Coal						
Intermediate	7'	J55	17 LBS.	1908'	EXISTING	SURFACE
Production	4 1/2"	J55	10.5 LBS	2230'	EXISTING	1650' TOC
Tubing						
Liners						

Packers: Kind: _____
Sizes: _____
Depths Set _____

WR-35
Rev. 8/23/13

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

API 47 - 15 - 02888 County CLAY District UNION
Quad ELKHURST 7.5' Pad Name _____ Field/Pool Name _____
Farm name CONNER, CHESSIE, ET AL. Well Number J.S. COCHRAN #3
Operator (as registered with the OOG) RAVEN RIDGE 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 N/A Easting N/A
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing _____ Easting _____

Elevation (ft) 1,237' 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)
SOAP

Date permit issued 6/26/2013 Date drilling commenced 11/2/2013 Date drilling ceased 11/30/2013
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 1150' - 1650' Void(s) encountered (Y/N) depths N
Coal depth(s) ft N Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

WR-35
Rev. 8/23/13

API 47- 15 - 02888 Farm name CONNER, CHESSIE, ET AL. Well number J.S. COCHRAN #3

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	J-55 - 42 LBS	NONE	YES - CEMENTED BY RIG
Surface	12 1/4"	9 5/8"	377'	NEW	J-55 - 29 LBS	120'	YES
Coal							
Intermediate 1	8 3/4"	7"	1908'	NEW	J-55 - 17 LBS	335'	YES
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	2230'	NEW	J-55 10.5 LBS	NONE	YES
Tubing							
Packer type and depth set							

Comment Details

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft^3/sks)	Volume (ft^3)	Cement Top (MD)	WOC (hrs)
Conductor	CLASS I	10 - RIG				GROUND LEVEL	8
Surface	CLASS I	140	15.6	1.18	165.2	GROUND LEVEL	8
Coal							
Intermediate 1	CLASS I	275	14.7	1.36	374	GROUND LEVEL	8
Intermediate 2							
Intermediate 3							
Production	CLASS I	70	15.6	1.18	82.6	1650'	12
Tubing							

Drillers TD (ft) 2350' Loggers TD (ft) 2346'
Deepest formation penetrated SQUAW Plug back to (ft)
Plug back procedure

Kick off depth (ft) N/A

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/COMPLETION HAS NOT BEEN COMPLETED TO DATE.

WERE TRACERS USED ☐ Yes ☐ No TYPE OF TRACER(S) USED

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Rev. 8/23/13

API 47- 15 - 02888 Farm name CONNER, CHESSIE, ET AL. Well number J.S. COCHRAN #3

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	N/A				

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
	N/A							

Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

API 47- 15 - 02888 Farm name CONNER, CHESSIE, ET AL. Well number J.S. COCHRAN #3

PRODUCING FORMATION(S)	DEPTHS	
NONE	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 NAME	TOP DEPTH IN FT 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_2S, ETC)
SAND & SHALE	0	1048'	0		
SALT SANDS	1048'	1646'			
MAUCH CHUNK	1646'	1832'			
LITTLE LIME	1832'	1871'			
BLUE MONDAY	1871'	1891'			
BIG LIME	1891'	2003'			
GREENBRIER GROUP	2003'	2062'			
BIG INJUN	2062'	2082'			
KEENER	2082'	2096'			
SQUAW	2096'	2116'			
SAND & SHALE	2116'	2350			

Please insert additional pages as applicable.

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

Logging Company NABORS COMPLETION & PRODUCTION
Address 1650 HACKERS CREEK ROAD City JANE LEW State WV Zip 26378

Cementing Company FORMATION CEMENTING, INC.
Address P.O. BOX 2667 City ZANESVILLE State OH Zip 43702

Stimulating Company N/A
Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

Completed by DANIELLE N. BOGGS Telephone 304-344-9291
Signature Danielle N. Boggs Title OPERATIONS MANAGER Date 10/2/2014

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

WW-2A
(Rev. 6-14)

1). Date: OCTOBER 2, 2014

2.) Operator's Well Number J.S. COCHRAN #3

3.) API Well No.: 47- State / CLAY County - 02888 Permit

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 CHESSIE CONNER, ET AL
Address 1412 SATTES CIRCLE
NITRO, WV 25143
(b) Name
Address
(c) Name
Address

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

6) Inspector ED GAINER
Address P.O. BOX 821
SPENCER WV 25276
Telephone 304-389-7582

TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:

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

OR

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.

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Office of Oil and Gas
OCT 07 2014
WV Department of
Environmental Protection

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

Subscribed and sworn before me this ___ day of OCTOBER, 2014

Notary Public

My Commission Expires FEBRUARY 10, 2015

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

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BIG CHARLEY CONTRACT
OCT 24 2014
USPS 26302

JS-3

Sent To: Chessie Conner et. al.
Street, Apt. No.; or PO Box No.: 1412 Sattes Circle
City, State, ZIP+4: Nitro, WV 25143

PS Form 3800, August 2006 — See Reverse for Instructions

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Office of Oil and Gas

OCT 27 2014

WV Department of
Environmental Protection

WW-2A Surface Waiver

SURFACE OWNER WAIVER

County CLAY

Operator CUNNINGHAM ENERGY, LLC

Operator well number J.S. COCHRAN #3

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 57th 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, 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 have no objection to a permit being issued on those materials.

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Office of Oil and Gas
OCT 27 2014
WV Department of
Environmental Protection

FOR EXECUTION BY A NATURAL PERSON

_____ Date _____
Signature

_____
Print Name

FOR EXECUTION BY A CORPORATION, ETC.

Company Name _____
By _____
Its _____ Date

_____
Signature Date

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County CLAY
Operator CUNNINGHAM ENERGY, LLC Operator's Well Number J.S. COCHRAN #3

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 57th 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

_____ Date _____
Signature

FOR EXECUTION BY A CORPORATION, ETC.

Company Name _____
By _____
Its _____ Date

_____
Signature Date

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Office of Oil and Gas
OCT 27 2014
WV Department of
Environmental Protection

WW-2A1
(Rev. 1/11)

Operator's Well Number J.S. COCHRAN #3

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
ALVIN ENGELKE, AGENT	CUNNINGHAM ENERGY, LLC	1/8	21/1065
			21/1189

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

The applicant further acknowledges that any Office of Oil and Gas permit in no way [illegible] 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.

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Office of Oil and Gas
OCT 27 2014
WV Department of
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Well Operator: CUNNINGHAM ENERGY, LLC
By: Its: PRESIDENT

WW-2B1
(5-12)

Well No. J.S. COCHRAN #3

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 PENNSYLVANIA AVENUE
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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HUPP Surveying & Mapping

P.O. BOX 647
GRANTSVILLE, WV 26147
(304) 354-7035 hupp@frontiernet.net FAX: (304) 354-6548

October 22, 2014

RE: Water Samples for J.S. Cochran #3 (47-015-02888)

There appears to be one (1) potable water sources within 2,00' of J.S. Cochran #3 (47-015-02888), therefore tests should be offered and samples taken as required.

1. Thomas Rickmers
   1484 Shelton Rd. ✓
   Bomont, WV 25030
   Tax Map 18 Parcel 4

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Office of Oil and Gas

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MIC CHARLESTON CONTRACT STATION
OCT 24 2014
USPS 25302

JS-3

Sent To Thomas Kickmers
Street, Apt. No.; or PO Box No. 1484 Shelton Rd.
City, State, ZIP+4 Bomont, WV 25030

PS Form 3800, August 2006 See Reverse for Instructions

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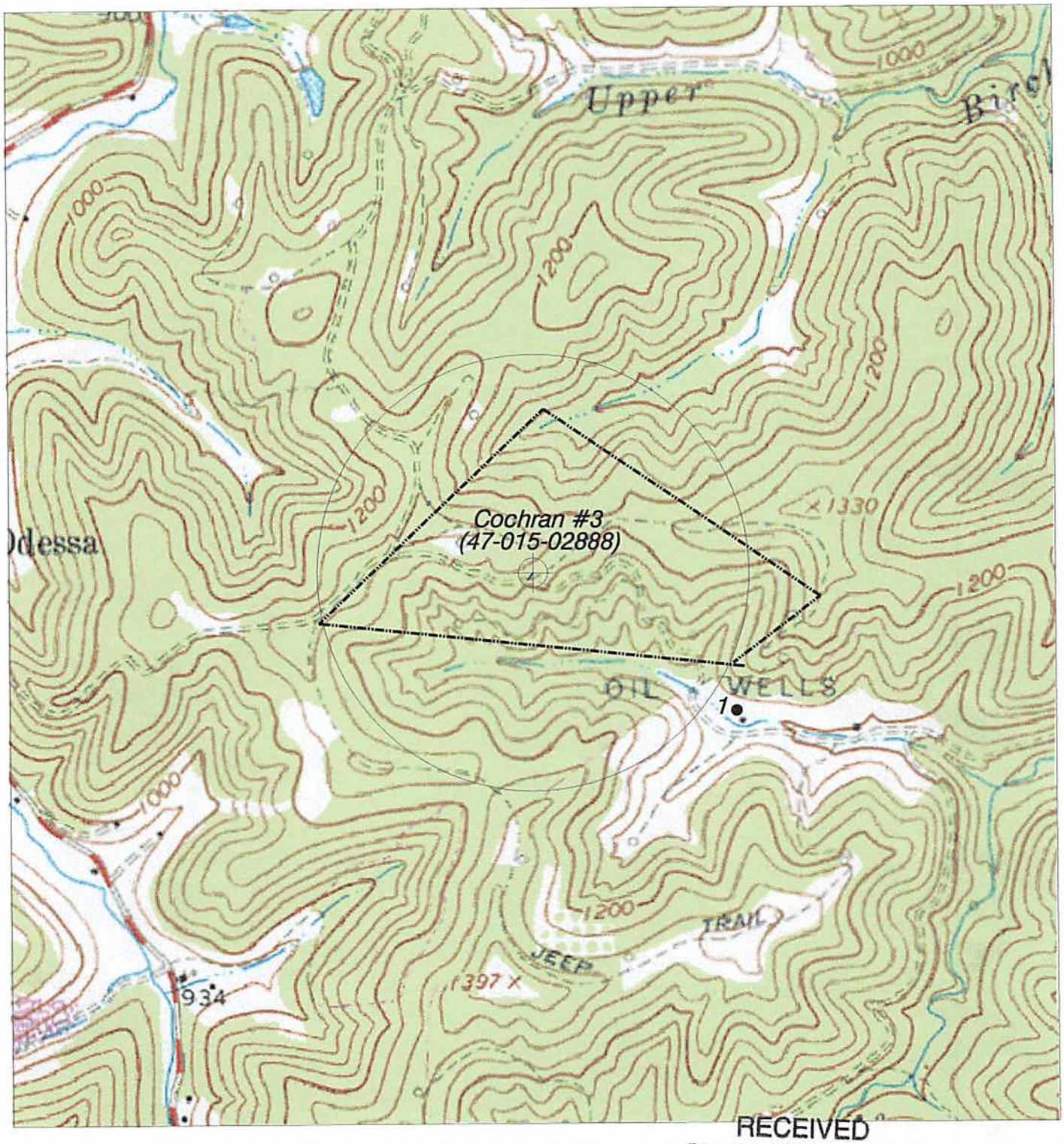
Office of Oil and Gas
OCT 27 2014
WV Department of Environmental Protection

Form W-9

Raven Ridge Energy, LLC.
J.S. Cochran #3 (47-015-02888)
Water



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WV Department of
Environmental Protection

HUPP Surveying & Mapping P.O. BOX 647 GRANTSVILLE, WV 26147 PH: (304)354-7035 E-MAIL: hupp@frontiernet.net	1" = 1000' Elkhurst Quad	Raven Ridge Energy, LLC. 3230 Pennsylvania Ave. Charleston, WV 25302

WW-9
(5/13)

Page _____ of _____
API Number 47 - 15 - 02888
Operator's Well No. J.S. COCHRAN #3

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 494485865

Watershed (HUC 10) TRIBUTARY OF WADE FORK Quadrangle ELKHURST 7.5'

Elevation 1,237 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 _____ 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
_____ Underground Injection (UIC Permit Number _____)
_____ Reuse (at API Number _____)
_____ Off Site Disposal (Supply form WW-9 for disposal location)
_____ Other (Explain _____

Will closed loop system be used? _____

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. _____

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

Additives to be used in drilling medium? _____

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

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

-Landfill or offsite name/permit number? _____

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature _____

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

Company Official Title PRESIDENT

RECEIVED
Office of Oil and Gas
OCT 27 2014
WV Department of
Environmental Protection

Subscribed and sworn before me this _____ day of OCTOBER, 20 14

Notary Public _____

My commission expires 10/02/2014

15-2888

Form WW-9

Operator's Well No. J. S. COCHRAN #3

Proposed Revegetation Treatment: Acres Disturbed 1.5 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: NOPI

Title: Inspector Date: 10/6/14

Field Reviewed? ( ) Yes (X) No

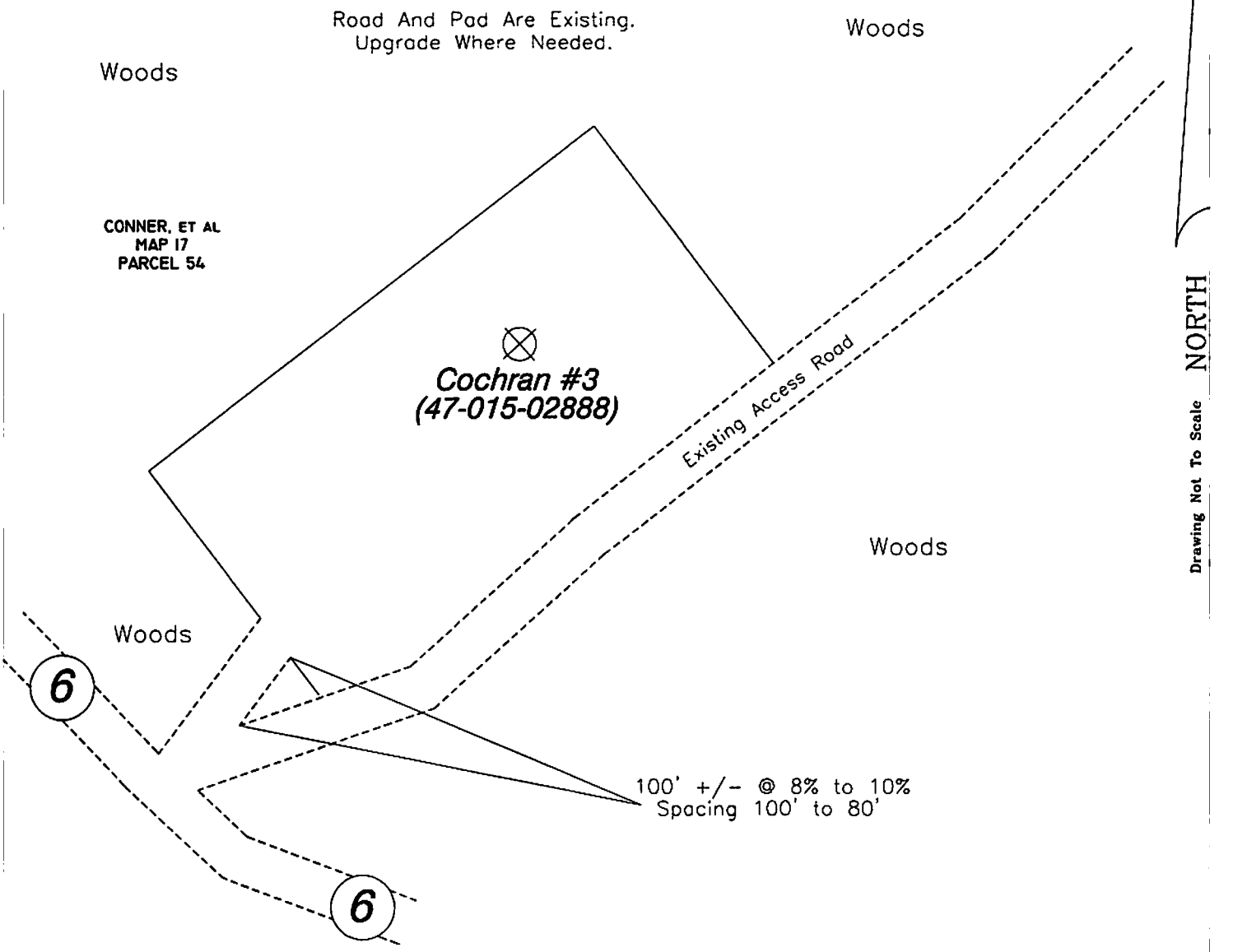
RECEIVED
Office of Oil and Gas

OCT 27 2014

WV Department of
Environmental Protection

Form W-9

CUNNINGHAM ENERGY, LLC.
J.S. COCHRAN #3
(47-015-02888)



Install Minimum 12" Culvert

ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH DEP. OIL AND GAS BMP MANUAL. ENTRANCES AT COUNTY\STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATIONS. SEPARATE PERMITS MAY BE REQUIRED BY THE D.O.T.

SEDIMENT BASINS, TRAPS AND APPROPRIATE EROSION CONTROL BARRIERS ARE TO BE CONSTRUCTED AT ALL CULVERT AND CROSS DRAIN INLETS AND OUTLETS AS REQUIRED IN THE WV DEP. OIL AND GAS BMP MANUAL. FIELD CONDITIONS (ROCK OUTCROPS AND BEDROCK) MAY PROHIBIT INLET TRAPS BEING INSTALLED. WHEN THESE CONDITIONS EXIST, ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED.

EARTHWORK CONTRACTORS ARE RESPONSIBLE FOR NOTIFYING TO THE OPERATOR AND INSPECTOR PRIOR TO ANY DEVIATION FROM THIS PLAN

CONTRACTORS/COMPANY ARE RESPONSIBLE FOR LOCATING UTILITIES WHETHER SHOWN ON THIS PLAN OR NOT

TEMPORARILY SEED AND MULCH ALL SLOPES AFTER CONSTRUCTION OF LOCATION.

CUT AND STACK ALL TIMBER ABOVE 6-INCHES IN DIAMETER AND THICKER.

STACK BRUSH BELOW LOCATION FOR SEDIMENT CONTROL.

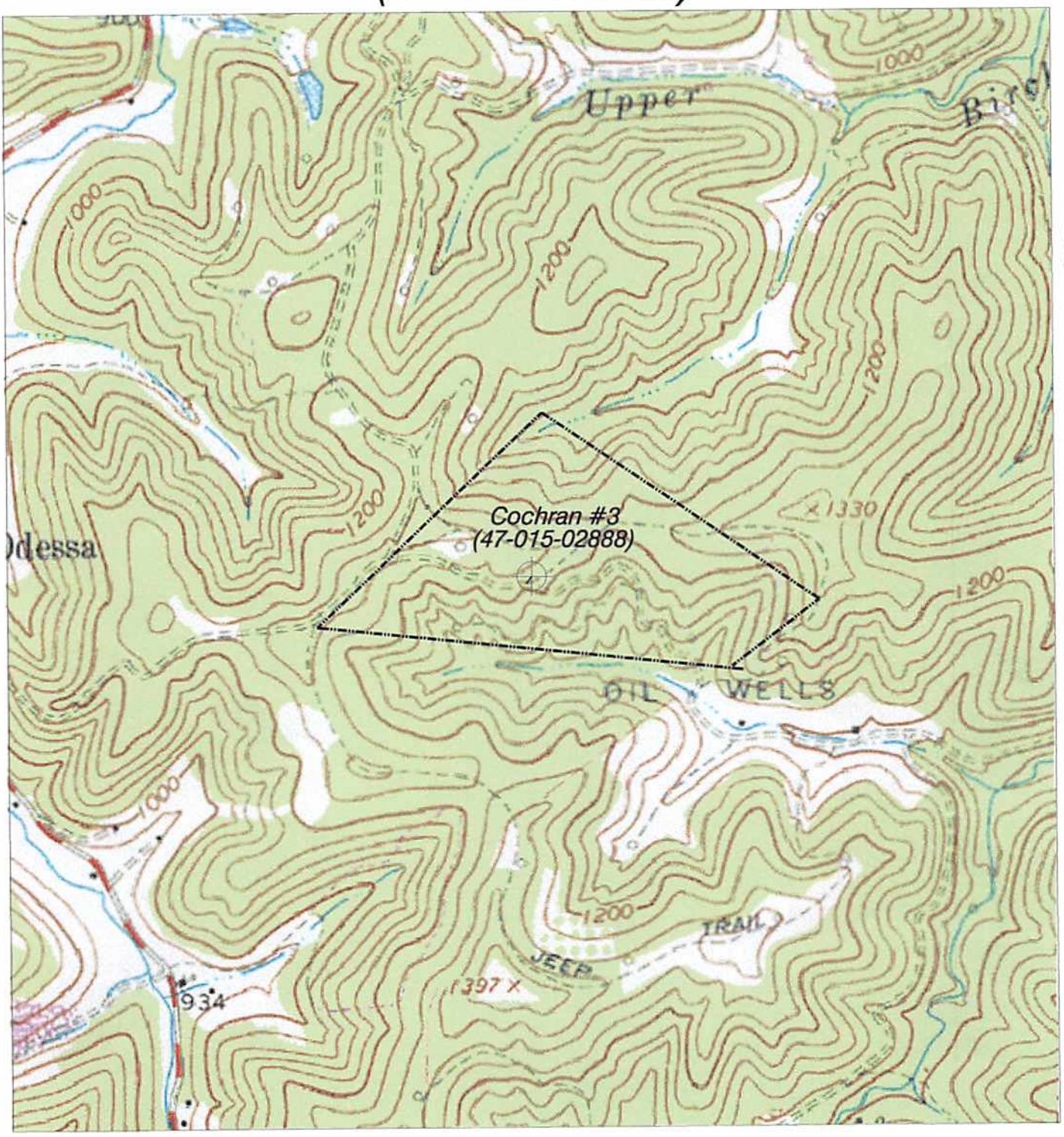
HUPP Surveying & Mapping
P.O. BOX 647 GRANTSVILLE, WV 26147
PH:(304)354-7035 E-MAIL: hupp@frontiernet.net

Drafted BY:	Date Drafted:	Job Number:
DB	12/15/14	W20122136

15-2888

Form W-9

Raven Ridge Energy, LLC.
J.S. Cochran #3
(47-015-02888)



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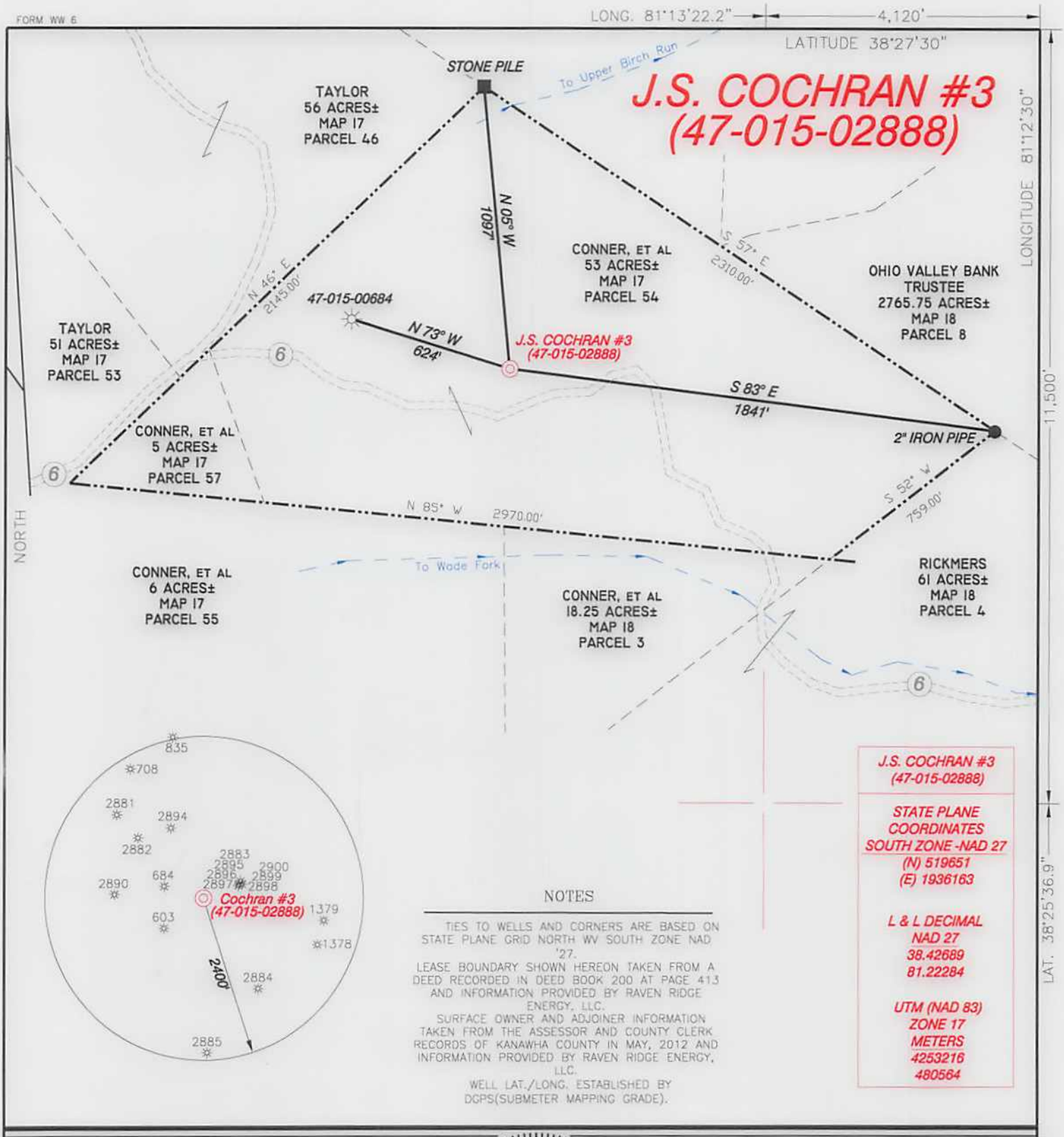
1" = 1000'
Elkhurst Quad

Raven Ridge Energy, LLC.
3230 Pennsylvania Ave.
Charleston, WV 25302

FORM WW 6



J.S. COCHRAN #3
(47-015-02888)

STATE PLANE COORDINATES
SOUTH ZONE -NAD 27
(N) 519651
(E) 1936163

L & L DECIMAL
NAD 27
38.42689
81.22284

UTM (NAD 83)
ZONE 17
METERS
4253216
480564

NOTES

TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
LEASE BOUNDARY SHOWN HEREON TAKEN FROM A DEED RECORDED IN DEED BOOK 200 AT PAGE 413 AND INFORMATION PROVIDED BY RAVEN RIDGE ENERGY, LLC.
SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF KANAWHA COUNTY IN MAY, 2012 AND INFORMATION PROVIDED BY RAVEN RIDGE ENERGY, LLC.
WELL LAT./LONG. ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).

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 REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 834

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DOYLE HUPP, JR. LICENSED No. 834 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE OCTOBER 22, 20 14
OPERATORS WELL NO. J.S. COCHRAN #3
API WELL NO. 47 — 015 — 02888 F
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. W2136 (BK 63-50)
SCALE 1" = 500'
PROVEN SOURCE OF ELEVATION DGPS (SUBMETER GRADE)

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

WELL TYPE : OIL X GAS ___ LIQUID INJECTION ___ WASTE DISPOSAL ___ IF "GAS" PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION :
ELEVATION 1,237' WATERSHED TRIBUTARY OF WADE FORK
DISTRICT UNION COUNTY CLAY QUADRANGLE ELKHURST 7.5'
SURFACE OWNER CHESSIE CONNER, et al ACREAGE 53±
ROYALTY OWNER ALVIN ENGELKE, AGENT LEASE ACREAGE 117.25±
PROPOSED WORK : LEASE NO. ___
DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___
PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION BEREA
ESTIMATED DEPTH 3,000'

COUNTY NAME
PERMIT

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