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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

Jim Justice , Governor  
Austin Caperton , Cabinet Secretary  
www.dep.wv.gov

Monday, October 16, 2017  
WELL WORK PERMIT  
Coal Bed Methane Well / Plugging

ARP MOUNTAINEER PRODUCTION, LLC  
425 HOUSTON, STE 300

FORT WORTH, TX 76102

Re: Permit approval for BCC-001A  
47-081-01365-00-00

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: BCC-001A  
Farm Name: BEAVER COAL COMPANY  
U.S. WELL NUMBER: 47-081-01365-00-00  
Coal Bed Methane Well / Plugging  
Date Issued: 10/16/2017

Promoting a healthy environment.

10/20/2017

# PERMIT CONDITIONS

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

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## CONDITIONS

1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
3. Well work activities shall not constitute a hazard to the safety of persons.

8101365CP

WW-4B  
Rev. 2/01

1) Date 8-31, 2017  
2) Operator's  
Well No. BCC-001A  
3) API Well No. 47-81 - 01365

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON A COAL BED METHANE WELL

- 4) Well Type: Oil \_\_\_ / Gas X / Liquid injection \_\_\_ / Waste disposal \_\_\_ /  
(If "Gas, Production \_\_\_ or Underground storage \_\_\_) Deep \_\_\_ / Shallow \_\_\_
- 5) Location: Elevation 2465' Watershed Burnt Branch of Slab Fork  
District Slab Fork County Raleigh Quadrangle Lester
- 6) Well Operator ARP Mountaineer Production, LLC  
Address 425 Houston Street  
Suite 300  
Fort Worth Texas 76102
- 7) Designated Agent CT Corporations Systems  
Address 5400 D Big Tyler Road  
Charleston WV 25313
- 8) Oil and Gas Inspector to be notified  
Name Gary Kenedy  
Address 252 Circle Ave.  
Rainelle WV 25962
- 9) Plugging Contractor  
Name TBD  
Address \_\_\_\_\_

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

*See attached procedure.*

*PINNATE LATERALS WILL BE FILLED WITH FRESH WATER BEFORE SETTING OPEN HOLE BRIDGE PLUG.*

*JVM 10/13/17*

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

Work order approved by inspector *Gary Kennedy* Date 9/18/17

10/20/2017

**BCC 001A**  
**API# 47-081-01365**

ARP Mountaineer Production, LLC proposes the following procedures for plugging:

1. MIRU Service Rig
2. RIH w tubing and open hole bridge plug to 1250' or as deep as reasonably achievable
3. Set OH bridge plug
4. POOH w setting tool
5. RIH w tubing to top of open hole bridge plug
6. Set 125 cf cement plug from 1250' to 780' with 95 sx expanding cement
7. POOH w tubing
8. WOC 4 hours and RIH w tubing to tag plug ~780' (no deeper than 880')
9. Set 175 cf cement plug from 780' to surface w 135 sx expanding cement
10. RDMO service rig to BCC 001B
11. Install permanent marker and reclaim location to WVDEP specs



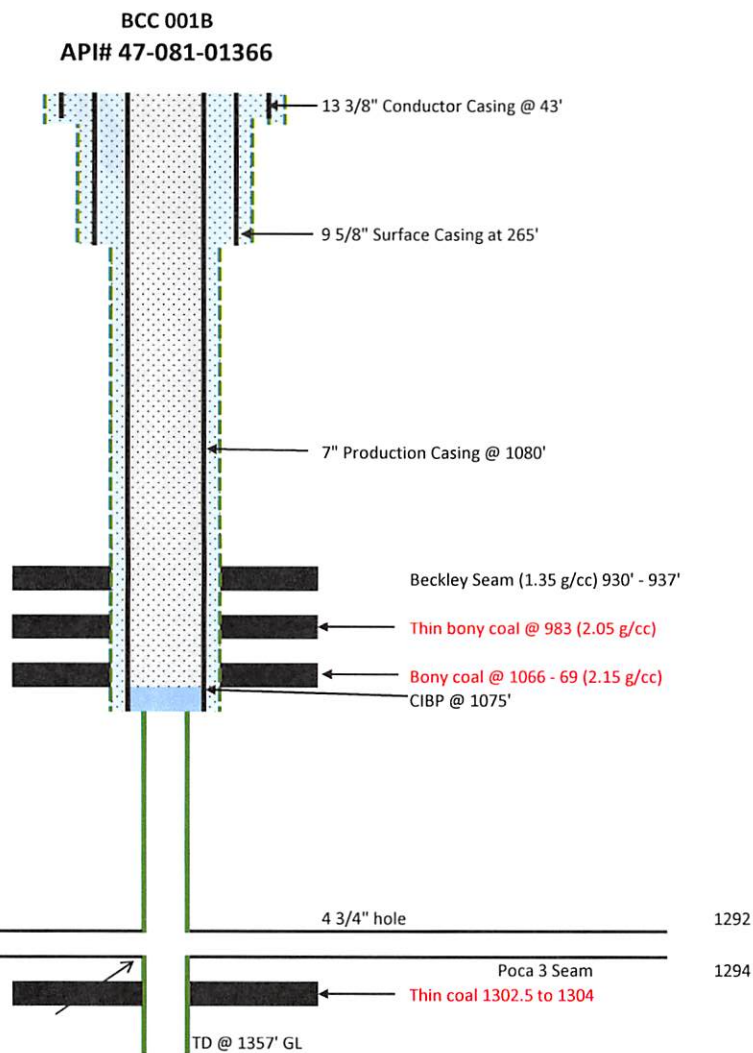
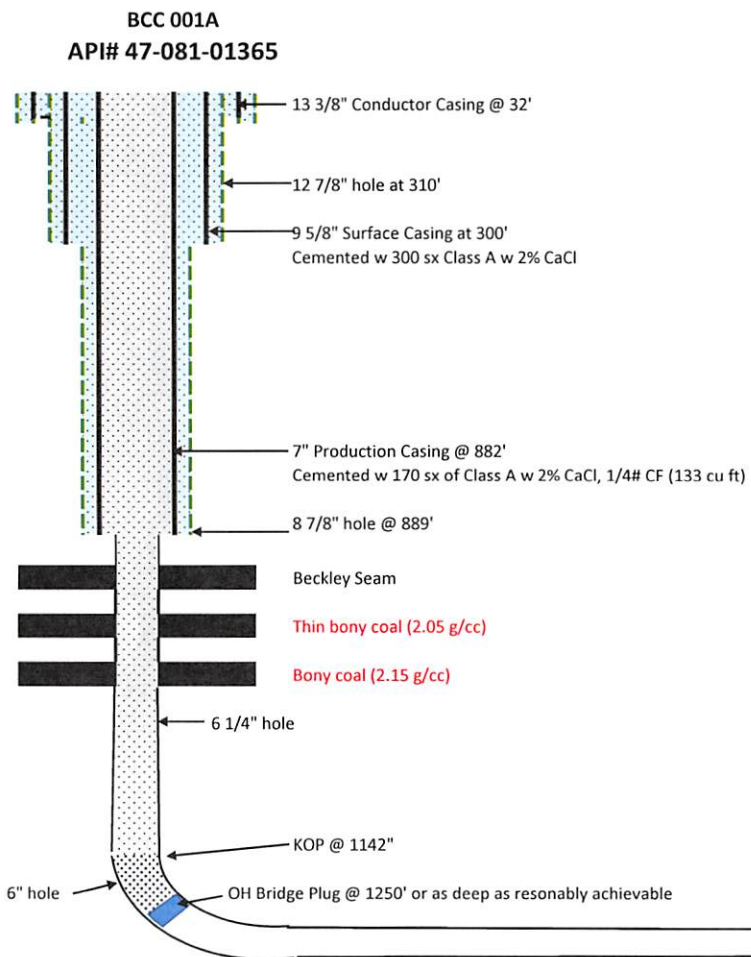
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# BCC 001A and BCC 001B Post Plugging Wellbore Schematics



BCC 001A Lateral Measured Depth - 1546'

7" Casing from surface to 882' 35 bbl  
 6 1/4" Hole from 882 to 1142 (KOP) 10 bbl  
 6" Hole from 1142 - 1546' MD (KOP to Intercept Point) 14 bbl

Total 59 bbl

7" Casing from surface to 1080' 43 bbl  
 6 1/4" hole from 1080' to 1294' 8 bbl  
 6 1/4" hole from 1294' to 1357' 2 bbl  
 24272' of 4 3/4" lateral 532 bbl

Total 585 bbl

*Handwritten initials*

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State of West Virginia  
Division of Environmental Protection  
Section of Oil & Gas  
Well Operator's Report of Well Work

Farm name: Beaver Coal Company

Operator Well No: BCC-001A

Location: Elevation: 2465.21'

Quadrangle: Lester

District: Slab Fork

County: Raleigh

Latitude: 7336 Feet South of 37 Deg. 45 Min. 00 Sec.  
Longitude: 12692 Feet West of 81 Deg. 20 Min. 00 Sec.

Company: CDX Gas, LLC  
P.O. Box 609  
Pineville, WV 24874

Agent: JOSEPH A. ZUPANICK

Inspector: Name  
Permit Issued: 07/07/2005  
Well Work commenced: 7/20/2005  
Well Work completed: 8/20/2005  
Verbal plugging  
Permission granted on:  
Rotary x Cable \_\_\_\_\_ Rig  
Total depth (ft) 1289'  
Fresh water depths (ft) N/A  
Salt water depths (ft) N/A  
Is coal being mined in the area (Y/N)? Y  
Coal depths (ft): 930,1286.

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill up Cu.ft.
13 3/8"	32	32	22
9 5/8 "	300	300	94
7"	882	882	133

OPEN FLOW DATA

Producing formation (Non-producer) Pay zone depth (ft) \_\_\_\_\_  
 Gas: Initial open flow N/A Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow N/A Mcf/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests: \_\_\_\_\_ hours  
 Static rock pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ hours

Second Producing formation \_\_\_\_\_ Pay zone depth \_\_\_\_\_ (ft)  
 Gas: Initial open flow \_\_\_\_\_ Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow \_\_\_\_\_ Mcf/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests: \_\_\_\_\_ hours  
 Static rock pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ hours

Third Producing formation \_\_\_\_\_ Pay zone depth \_\_\_\_\_ (ft)  
 Gas: Initial open flow \_\_\_\_\_ Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow \_\_\_\_\_ Mcf/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests: \_\_\_\_\_ hours  
 Static rock pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ hours

Note: ON BACK OF THIS FORM, PUT THE FOLLOWING: 1) DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2) THE WELL LOG WHICH IS A SYSTEMATICK DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Charles T. Akers  
For: CDX Gas, LLC  
By: [Signature]  
Date: 9/19/2005  
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Operator: BCC-001A  
 API No. 47- 081- 01365  
 Location: Raleigh County

Details of Perforated Intervals, Fracturing or Stimulation, Physical Change, Etc. – N/A

Well Log & Geologic Record - Depths from G.L.

Lithology	Depth in feet	
	Top	Bottom
Casing	0	10
Sandy Shale	10	70
Shale	70	130
Sandy Shale	130	200
Shale	200	240
Sandy Shale	240	300
Shale	300	380
Sandy Shale	380	400
Shale	400	580
Sandy Shale	580	600
Shale	600	620
Sandy Shale	620	720
Shale	720	900
Sandy Shale	900	930
Coal	930	937
Shale	937	1010
Sandy Shale	1010	1090
Shale	1090	1150
Sandy Shale	1150	1260
Shale	1260	1286
Coal	1286	1289
End		

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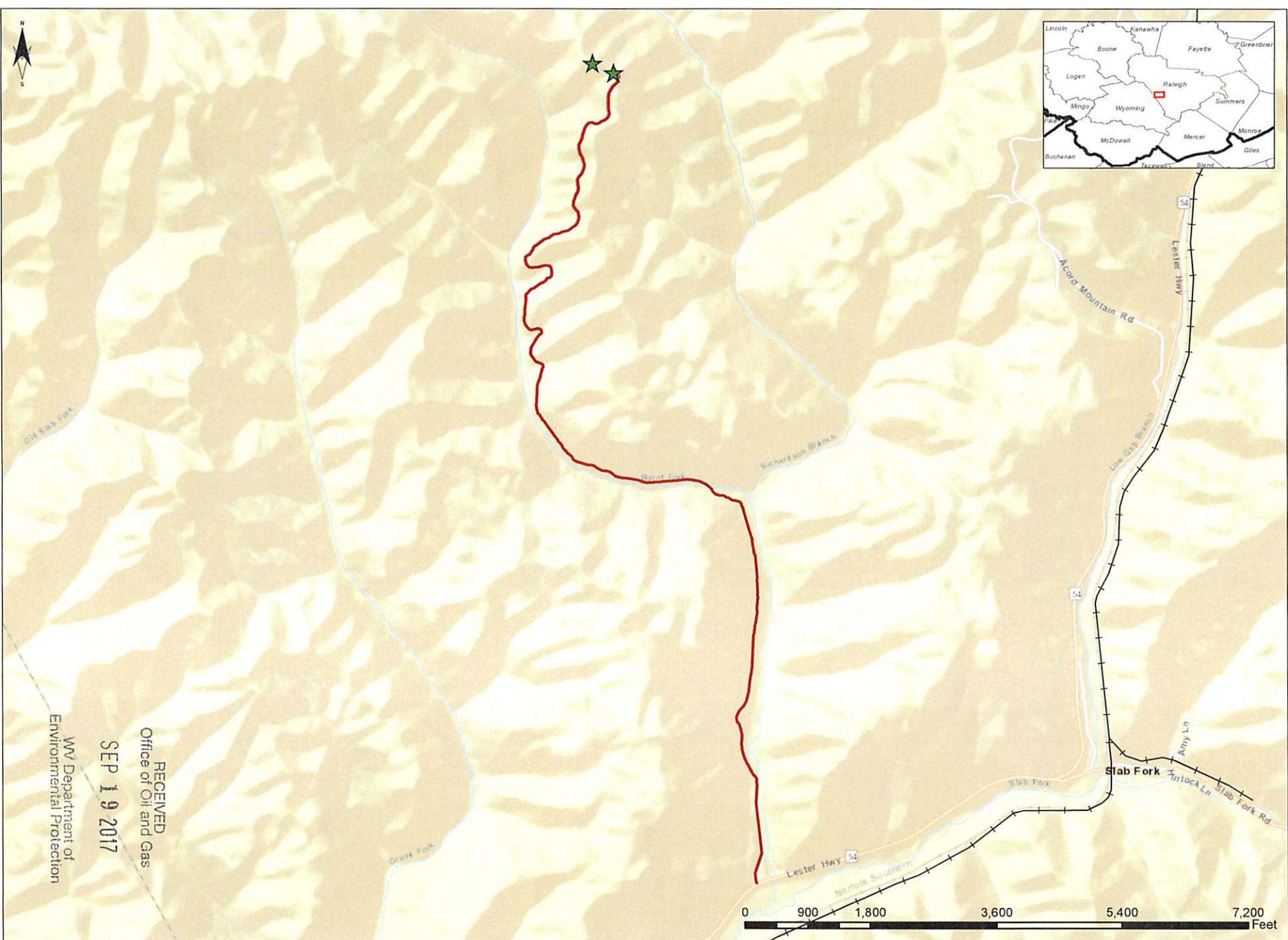
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**T** Titan Energy

**BCC-001A & BCC-001B Access Road**

Date: 8/30/2017  
 1 in = 0.34 miles  
 Created By: Rocky Reed  
 Coordinate System: NAD 1983 UTM Zone 17N  
 Document Path: S:\GIS\FWGIS Public\GIS USERS\Rocky Reed\Maps\Misc\Location\_Map.mxd

8101365CP



8101365CP

WW-4A  
Revised 6-07

1) Date: 8/31/2017  
2) Operator's Well Number  
BCC-001A

3) API Well No.: 47 - 81 - 01385

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

4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Beaver Coal Company, LTD</u>	Name <u>No operations at this time.</u>
Address <u>115-1/2 B South Kanawha St</u> <u>Beckley, WV 25802</u>	Address _____
(b) Name <u>Western Pocahontas Properties</u>	(b) Coal Owner(s) with Declaration
Address <u>5280 Irwin Road</u> <u>Huntington WV 25705</u>	Name <u>Beaver Coal Company, LTD</u>
(c) Name _____	Address <u>115-1/2 B South Kanawha St</u> <u>Beckley, WV 25802</u>
Address _____	Name _____
Address _____	Address _____
6) Inspector <u>Gary Kenedy</u>	(c) Coal Lessee with Declaration
Address <u>252 Circle Ave.</u> <u>Rainelle WV 25862</u>	Name <u>(1) Pocahontas Coal Co., 442 Lost Tree Lane, Knoxville, TN 37934-2563 has Poca 3 seam</u>
Telephone <u>304-382-8402</u>	Address <u>(2) Grey Flat Development Co., 109 Appalachian Drive, Beckley, WV 25801 has Beckley seam</u>

**TO THE PERSONS NAMED ABOVE:** You should have received this Form and the following documents:

- The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- The plat (surveyor's map) showing the well location on Form WW-6.

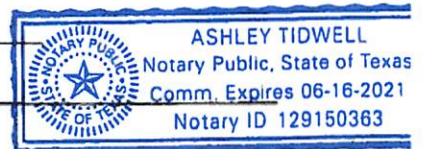
The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

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Well Operator ARP MOUNTAINEER PRODUCTION, LLC  
 By: Jane Harris Green Herdick 8/31/17  
 Its: Director, ASE  
 Address 425 Houston St, Ste 300, Ft. Worth, TX 76102  
 Telephone 817-665-8830

Subscribed and sworn before me this 31 day of August 2017  
Ashley Tidwell (Ashley Tidwell) Notary Public  
My Commission Expires 6/16/2021



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).

10/20/2017

8101365CP

WW-9  
(5/16)

API Number 47 - 81 - 01385  
Operator's Well No. \_\_\_\_\_

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

Operator Name ARP MOUNTAINEER PRODUCTION, LLC OP Code 494509804  
Watershed (HUC 10) 0507010101 (Richardson Branch) Quadrangle Tommy Creek-Guyandotte River

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  OPEN TOP TANK  
If so, please describe anticipated pit waste: Water and Cement to be Collected in open top tank

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 \_\_\_\_\_)

Will closed loop system be used? If so, describe: NO

Drilling medium anticipated for this well (vertical and horizontal)? 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? \_\_\_\_\_

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.

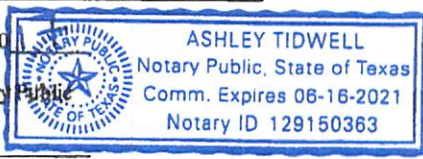
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations 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 Julie Harris  
Company Official (Typed Name) Julie Harris  
Company Official Title Director, HSE

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OCT 12 2017  
WV Department of  
Environmental Protection

Subscribed and sworn before me this 31 day of August, 2017  
Ashley Tidwell (Ashley Tidwell) Notary Public  
My commission expires 06/16/2021



10/20/2017



Proposed Revegetation Treatment: Acres Disturbed 0.5 Prevegetation pH 5-6.5

Lime 2 Tons/acre or to correct to pH 6

Fertilizer type 10-20-20 or equivalent

Fertilizer amount 500 lbs/acre

Mulch Hay/Straw Tons/acre

**Seed Mixtures**

**Temporary**

**Permanent**

Seed Type lbs/acre

Seed Type lbs/acre

Tall Fescue 40

Annual Rye Grass 5

**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.

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Plan Approved by: *Danny Kennedy*

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

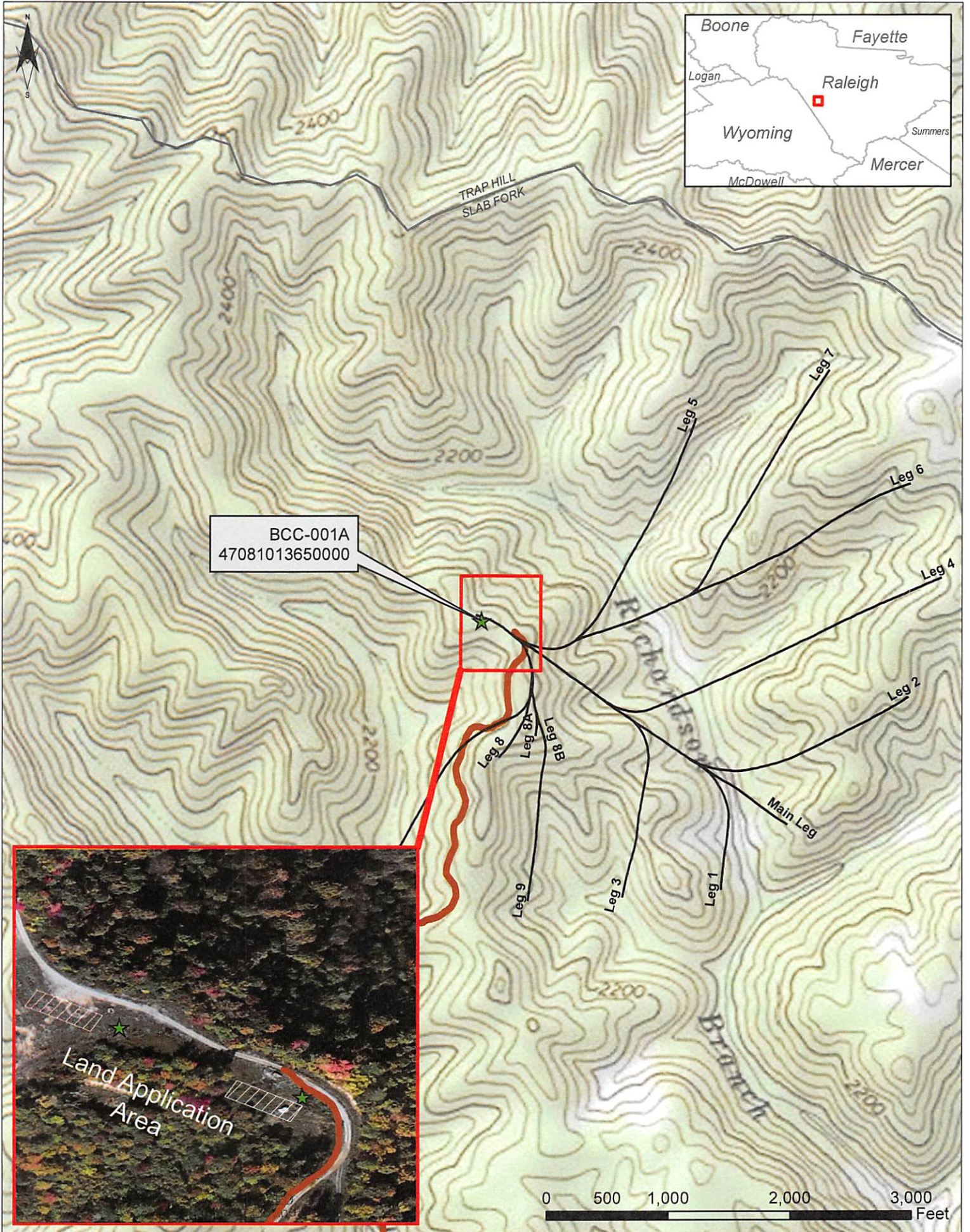
Title: *Inspected*

Date: *9/18/17*

Field Reviewed?  Yes

No







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

Operator Name: ARP Mountaineer Production, LLC  
Watershed (HUC 10): 0507010101 ( Richardson Branch ) Quad: Tommy Creek-Guyandotte River  
Farm Name: \_\_\_\_\_

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

Waste water that is collected into the portable tank will be treated and ground disbursed using a 2" portable gasoline powered trash pump.

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

While in operation, the portable 2" gasoline powered trash pump will be placed inside containment eliminating chances for potential spillage of gasoline onto the surface.

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

Closest Water Body - Richardson Branch  
Distance to Closest Water Body 1,200' +/-  
Distance from Closest WHPA to Discharge Area - N/A

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

Not applicable.

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

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Not Applicable

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

No wastes will be used for deicing, ice control, structural fills, road base or other uses.

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.

All employees will be trained on their responsibility to ensure groundwater protection. Current job procedures provide direction on how to prevent ground water contamination through proper work practices.

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

During the plugging and abandonment activities, the site will be inspected to ensure that all elements and equipment of the sites ground water protection program are in place, properly functioning, and appropriately managed.

Signature: Rocky Stubbell

Date: 8-31-2017

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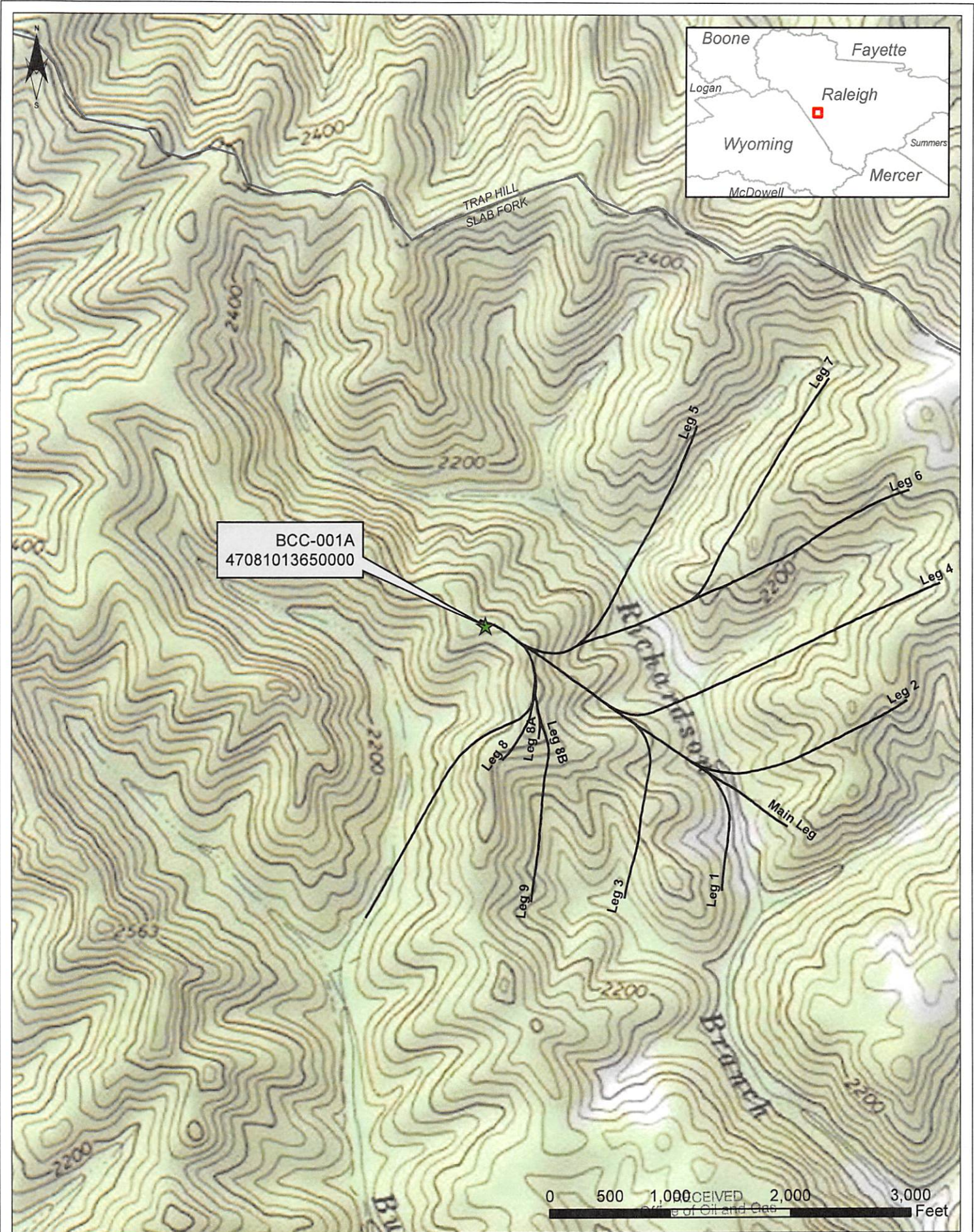


BCC 001A

BCC 001 B









WW-7  
8-30-06



West Virginia Department of Environmental Protection  
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 8101365 WELL NO.: BCC-001A

FARM NAME: BEAVER COAL COMPANY

RESPONSIBLE PARTY NAME: ARP MOUNTAINEER PRODUCTION, LLC

COUNTY: Raleigh DISTRICT: Slab Fork

QUADRANGLE: Lester

SURFACE OWNER: Beaver Coal Company, LTD

ROYALTY OWNER: Beaver Coal Company, LTD

UTM GPS NORTHING: 4174281

UTM GPS EASTING: 468405 GPS ELEVATION: 2465'

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS  : Post Processed Differential

Real-Time Differential

Mapping Grade GPS  : Post Processed Differential

Real-Time Differential

4. Letter size copy of the topography map showing the well location.

I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.

Rocky Atchell  
Signature

HSE  
Title

8-31-2017  
Date

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