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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

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

Tuesday, November 15, 2016  
WELL WORK PERMIT  
Coal Bed Methane Well / Plugging

ARP MOUNTAINEER PRODUCTION, LLC  
PARK PLACE CORPORATE CENTER ONE  
1000 COMMERCE DRIVE 4TH FLOOR  
PITTSBURGH, PA 15275

Re: Permit approval for CO-9C  
47-081-01482-00-00

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: CO-9C  
Farm Name: BLACKBURN-PATTERSON REAL.  
U.S. WELL NUMBER: 47-081-01482-00-00  
Coal Bed Methane Well / Plugging  
Date Issued: 11/15/2016

Promoting a healthy environment.

11/18/2016

## 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. 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.
4. This well is under a consent order and must be plugged within two years of the date of issuance of this permit.

8101482A

WW-4B  
Rev. 2/01

1) Date September 27, 2016  
2) Operator's  
Well No. CO-9C  
3) API Well No. 47-81 - 01482

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) Well Type: Oil \_\_\_/ Gas X/ Liquid injection \_\_\_/ Waste disposal \_\_\_/  
(If "Gas, Production \_\_\_ or Underground storage \_\_\_) Deep \_\_\_/ Shallow \_\_\_

5) Location: Elevation 2368.45' Watershed Left Hand Fork Paint Creek  
District Towns County Raleigh Quadrangle Beckley

6) Well Operator ARP Mountaineer Production, LLC 7) Designated Agent CT Corporation System  
Address Park Place Corporate Centre One Address 5400 D Big Tyler Road  
1000 Commerce Drive 4th Floor, Pittsburg, PA 15275 Charleston, West Virginia 25313

8) Oil and Gas Inspector to be notified Name Gary Kennedy  
Address 252 Circle Avenue Rainelle  
West Virginia 25962  
9) Plugging Contractor Name TBD  
Address \_\_\_\_\_

10) Work Order: The work order for the manner of plugging this well is as follows:  
Move in rig up workover rig, Lower tubing and tag bottom, TD 1,270'  
If fill is encountered, clean to as deep as reasonably achievable below lowermost coal.  
RIH with 2-3/8" tubing set off of bottom + or - two feet. Spot 400' balanced plug using 50% excess in cement, totaling 160cu.ft of expanding cement.  
TOOH w/tubing to be above cement plug, WOC for 4hrs minimum  
RIH w/tubing, tag cement at or near 870', finish circulating cement to the surface, using 218cu.ft of expanding cement  
Install permanent marker and reclaim location to WVDEP specifications

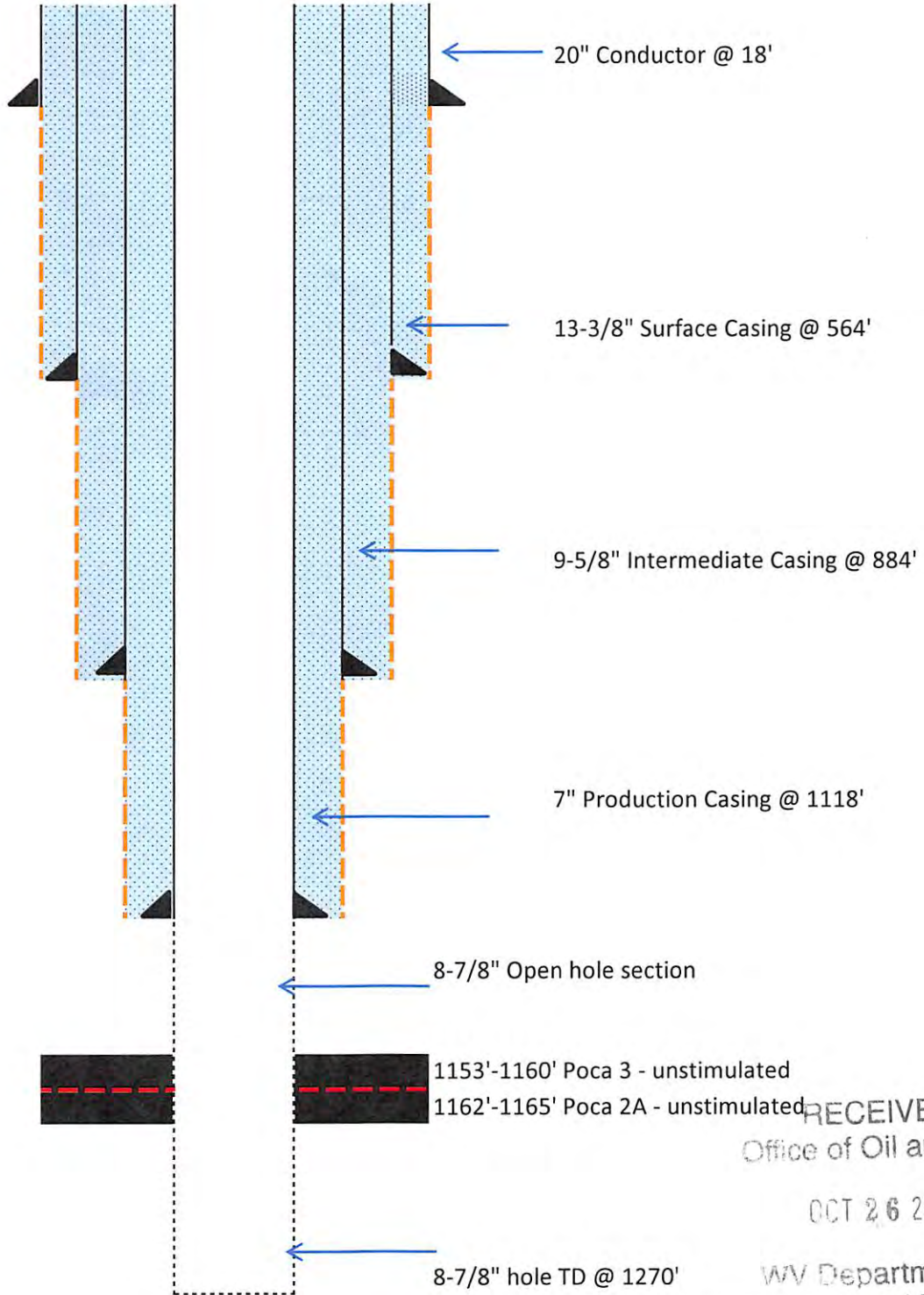
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Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector *Gary Kennedy* Date 10/17/16

11/18/2016

CO9C  
Plug and Abandon Schematic  
API # 47-081-01482



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WR-35  
Rev (8-10)

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

DATE: 10/10/2011  
API #: 47-081-01482

Farm name: Blackburn-Patterson Real. Operator Well No.: CO-9C

LOCATION: Elevation: 2388.45' Quadrangle: Beckley

District: Towns County: Raleigh  
Latitude: 9313 Feet South of 37 Deg. 60 Min. 00 Sec.  
Longitude 7144 Feet West of 81 Deg. 12 Min. 30 Sec.

Company:

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
4 Waterway Square Pl, Suite 400, The Woodlands, TX 77382	20"	18'	18'	
Agent:	13-3/8"	564'	564'	440 sks
Inspector:	9-5/8"	884'	884'	400 sks
Date Permit Issued: 06/05/2008	7"	1,118'	1,118'	185 sks
Date Well Work Commenced: 07/22/2008				
Date Well Work Completed: 07/31/2008				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 1,270'				
Total Measured Depth (ft): 1,270'				
Fresh Water Depth (ft.):				
Salt Water Depth (ft.):				
Is coal being mined in area (N/Y)? <input checked="" type="checkbox"/>				
Coal Depths (ft.): Lower Beckley - 816'	Fire Creek - 919'	Pocahontas 3 - 1,153'	Pocahontas 2A - 1,162'	
Void(s) encountered (N/Y) Depth(s) N				

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OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Pocahontas 2A Pay zone depth (ft) 1,162' - 1,165'  
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

Second producing formation Pocahontas 3 Pay zone depth (ft) 1,153' - 1,160'  
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

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I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the 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.

Samuel Beath  
Signature

10/10/11  
Date

*WJK*

Were core samples taken? Yes \_\_\_\_\_ No

Were cuttings caught during drilling? Yes \_\_\_\_\_ No

Were  Electrical,  Mechanical,  or Geophysical logs recorded on this well?  
Y/N Y/N Y/N

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Perforated Intervals, Fracturing, or Stimulating:

Open hole 1,118' - 1,270'

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Formations Encountered: \_\_\_\_\_ Top Depth / \_\_\_\_\_ Bottom Depth  
Surface:

Sand & Shale: 0 - 111'	
Sand: 111' - 159'	
Sandy Shale: 159' - 230'	
Sand & Shale: 230' - 384'	
Shale: 384' - 449'	
Sand & Shale: 449' - 558'	
Lower Beckley Coal: 816' - 818'	
Sand & Shale: 818' - 919'	
Fire Creek Coal: 919' - 921'	
Sand with Scattered Shale: 921' - 1153'	
Pocahontas 3 Coal: 1153' - 1160'	
Shale: 1160' - 1162'	
Pocahontas 2A: 1162' - 1165'	
Sandy Shale: 1165 - 1270'	
TD: 1270'	

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*WJK*

11/18/2016

WW-4A  
Revised 6-07

1) Date: September 27, 2016  
2) Operator's Well Number  
CO 9C  
3) API Well No.: 47 - 81 - 01482

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

<b>4) Surface Owner(s) to be served:</b>	<b>5) (a) Coal Operator</b>
(a) Name <u>Blackburn Patterson Realty Company</u>	Name <u>ICG Beckley, LLC</u> ✓
Address <u>Po Box 229 Bradley</u>	Address <u>P.O. Box 49</u>
<u>West Virginia 25818</u>	<u>Eccles, WV 25836</u>
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>Beaver Coal Company</u> ✓
	Address <u>115 1/2 B South Kanawha Street Beckley West Virginia 25801</u>
	<u>Crab Orchard Land Company</u> ✓
	Address <u>300 Capitol Street Suite 1401 Charleston West Virginia 25301</u>
(c) Name _____	Name <u>WPP, LLC</u> ✓
Address _____	Address <u>5260 Irwin Road, Huntington, WV 25705</u>
	(c) Coal Lessee with Declaration
6) Inspector <u>Gary Kennedy</u>	Name <u>ICG Beckley, LLC</u> ✓
Address <u>252 Circle Avenue Rainelle</u>	Address <u>P.O. Box 49</u>
<u>West Virginia 25962</u>	<u>Eccles, WV 25836</u>
Telephone <u>(304)-382-8402</u>	

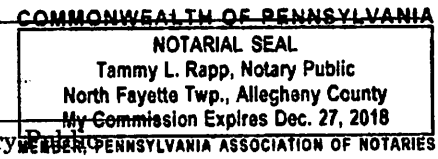
**TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:**

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

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

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

Well Operator ARP Mountaineer Production, LLC  
 By: Douglas S Byers  
 Its: Douglas S Byers  
 Address Atlas Resource Partners, LP Park Place Corporate Center One  
1000 Commerce Drive 4th Floor Pittsburgh, PA 15275  
 Telephone 412-200-7575



Subscribed and sworn before me this 3rd day of October  
Tammy L Rapp  
 My Commission Expires 12-27-18

Notary Public

**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).

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81014820

WW-9  
(2/15)

API Number 47 - 81 - 01482  
Operator's Well No. CO 9C

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 \_\_\_\_\_

Watershed (HUC 10) Marsh Fork Quadrangle Beckley

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: Water and Cement to be collected into a skidded 80 bbl 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: HLK

- 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? If so, describe: \_\_\_\_\_

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 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 Douglas S Byers

Company Official (Typed Name) DOUGLAS S Byers

Company Official Title Manager, Environmental & Regulatory Affairs

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Department of  
Environmental Protection

Subscribed and sworn before me this 3rd day of October, 2016

Tammy L Rapp

My commission expires 12-27-18

Notary Public, COMMONWEALTH OF PENNSYLVANIA

NOTARIAL SEAL  
Tammy L. Rapp, Notary Public  
North Fayette Twp., Allegheny County  
My Commission Expires Dec. 27, 2018  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

11/18/2016



ARP Mountaineer Production, LLC

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 or Orchard Grass	40		
Annual Rye Grass	5		

Attach:

Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

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

Title: Inspector

Date: 10/17/16

Field Reviewed? ( X ) Yes ( ) No

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11/18/2016

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): Marsh Fork Quad: Beckley  
Farm Name: BLACKBURN-PATTERSON REAL.

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 - Left Hand Fork Of Paint Creek.  
Distance to Closest Water Body 2,000' +/-  
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.

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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 Atwell*

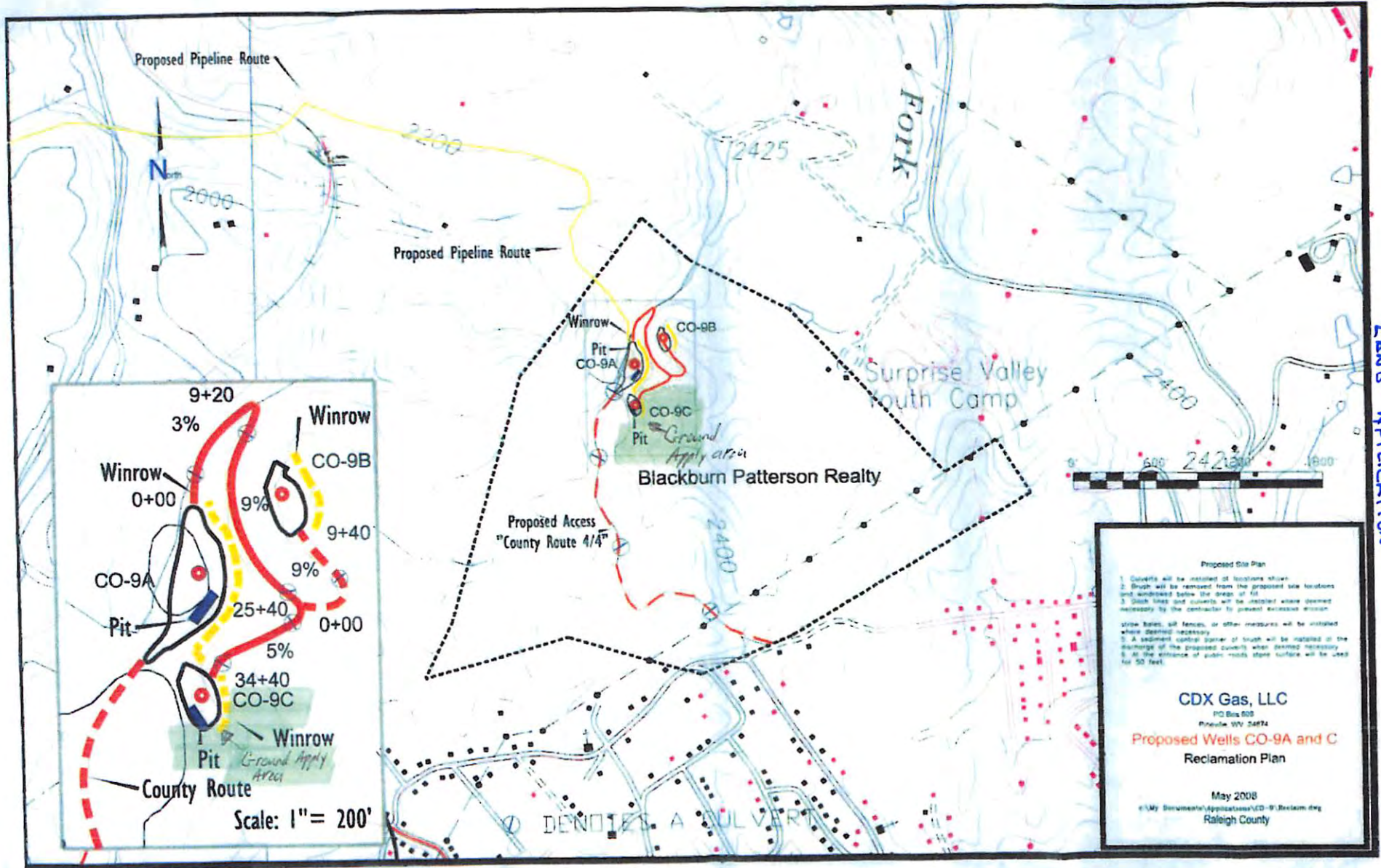
Date: \_\_\_\_\_

*9-27-2016*

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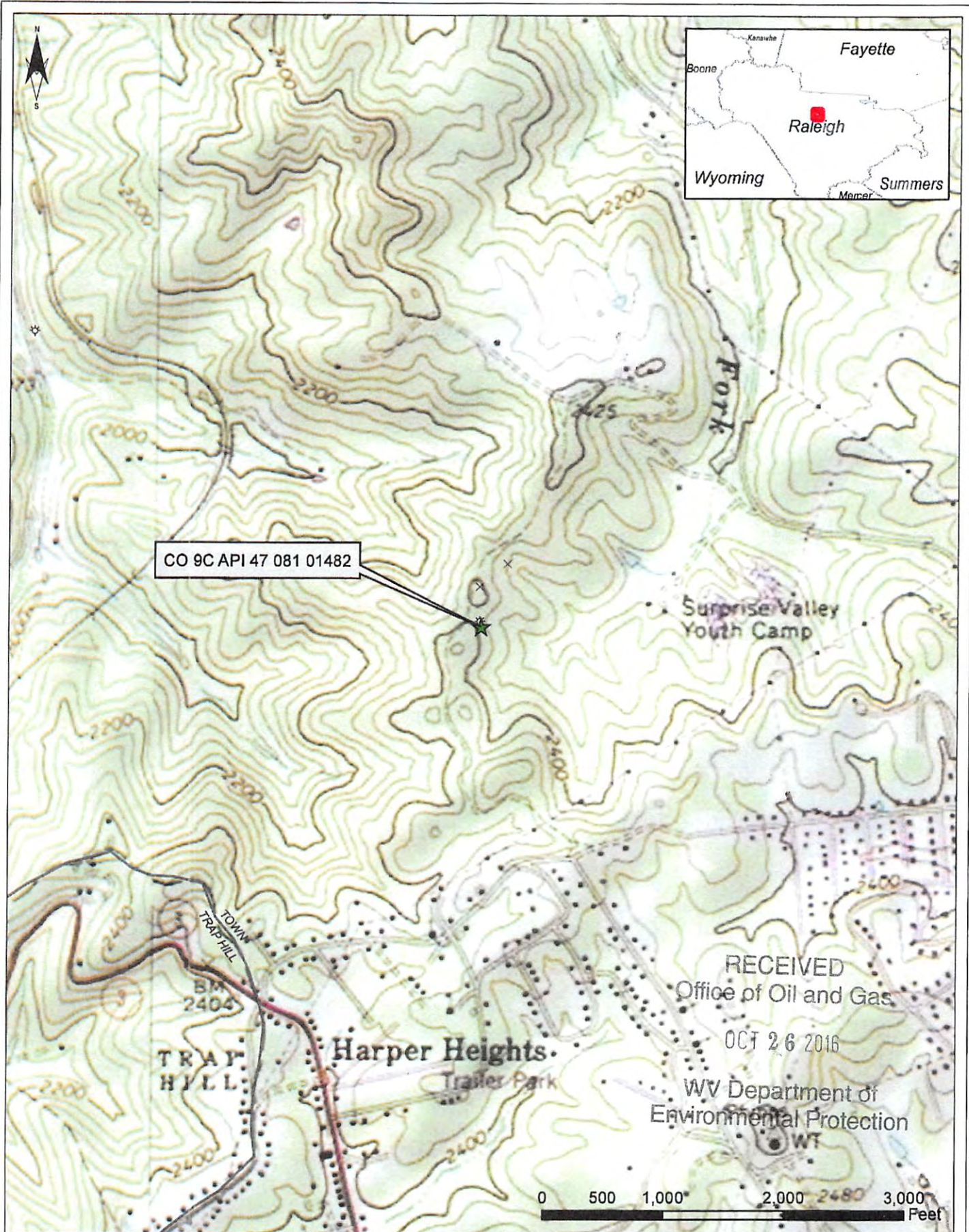
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LAND APPLICATION

8101482P



CO 9C API 47 081 01482

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0 500 1,000 2,000 2,480 3,000 Feet

CO 9C API 47 081 01482

Proposed Plugging  
 Well: CO 9C API 47 081 01482  
 General Location Map  
 Date 3/2/2016

11/18/2016  
*[Signature]*



ARP Mountainair Production LLC  
[REDACTED]  
CO-9C  
47-081-91482

8101482A

OR

S

WW-7  
8-30-06



West Virginia Department of Environmental Protection  
Office of Oil and Gas  
**WELL LOCATION FORM: GPS**

API: 47-8101482 WELL NO.: CO 9C

FARM NAME: Blackburn - Patterson Realty Company

RESPONSIBLE PARTY NAME: ARP Mountaineer Production, LLC

COUNTY: Raleigh DISTRICT: Town

QUADRANGLE: Beckley

SURFACE OWNER: Blackburn - Patterson Realty Company

ROYALTY OWNER: WPP LLC - Beaver Coal Company- Crab Orchard Land Co

UTM GPS NORTHING: 4185178.77

UTM GPS EASTING: 478844.46 GPS ELEVATION: 2368.45'

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:

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

Survey grade GPS x : Post Processed Differential X

Real-Time Differential \_\_\_\_\_

Mapping Grade GPS X : Post Processed Differential \_\_\_\_\_

Real-Time Differential X

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- 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 Athel  
Signature

Regulatory Compliance Specialist

Title

9-27-2016

Date