



**CONESTOGA-ROVERS  
& ASSOCIATES**

6320 Rothway, Suite 100, Houston, Texas 77040  
Telephone: (713) 734-3090 Fax: (713) 734-3391  
[www.CRAworld.com](http://www.CRAworld.com)

June 9, 2015

Reference No. 082715

Mr. Jay Fedczak  
Assistant Director for Permitting  
Division of Air Quality  
WV Department of Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, West Virginia 25304

Dear Mr. Jay Fedczak:

Re: General Permit G70-A Class I Admin Update Application  
Willard Well Pad  
Antero Resources Corporation

Conestoga-Rovers & Associates (CRA) would like to submit this General Permit Class I Administrative Update application that we prepared on behalf of Antero Resources Corporation for an oil and gas facility identified as Willard Well Pad.

The Class I Administrative Update is requested to correct the following typos in Section 3 - Emission Limitations of the G70-A153 permit issued on April 24, 2015.

- 1) The hourly and annual maximum potential emissions from the Gas Production Unit (GPU) Heaters (EP-H001 – EP-H009) should be as per permit application as shown in table below.

| Emission Unit ID   | Emission Point  | Emission Unit Description   | Regulated Pollutant | Maximum Potential Emissions (permit issued) |              | Maximum Potential Emissions (permit application) |              |
|--|---|-----------------------------|---------------------|---|--------------|--|--------------|
|  |   |                             |                     | Hourly (lb/hr)                              | Annual (tpy) | Hourly (lb/hr)                                   | Annual (tpy) |
| H001, H002, H003, and H004, H005, H006, H007, H008, and H009 | EP-H001, EP-H002, EP-H003, EP-H004, EP-H005, EP-H006, EP-H007, EP-H008, EP-H009 | Gas Production Unit Heaters | Nitrogen Oxides     | 1.00  | 4.35         | 1.08   | 4.74         |
|  |   |                             | Carbon Monoxide     | 0.84  | 3.66         | 0.91   | 3.98         |
|  |   |                             | VOC                 | 0.06  | 0.24         | 0.06   | 0.26         |

Equal  
Employment Opportunity  
Employer



**CONESTOGA-ROVERS  
& ASSOCIATES**

June 9, 2015

- 2 -

Reference No. 082715

- 2) The regulated pollutant from the Cimarron combustor in the emissions limitations table should be carbon monoxide, not carbon dioxide.

Attached are copies of the permit issued and Attachment O – Emissions Summary sheet from the permit application for your easy reference.

Please let us know if you have any questions or require additional information.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Manuel Bautista

Encl.

cc: Barry Schatz, Antero Resources Corporation



## 8 h '8 ° Class I Administrative Update

Request for corrections to typos in Section 3 - Emissions Limitations  
of the G70-A153 permit issued on April 25, 2015

Willard Well Pad

Prepared for: Antero Resources Corporation

- 
- 
- 
- 
- 
- 

**Conestoga-Rovers & Associates**

6320 Rothway, Suite 100  
Houston, Texas 77040

June 2015 • 082715 • Report No. 200



WEST VIRGINIA  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 DIVISION OF AIR QUALITY  
 601 57<sup>th</sup> Street, SE  
 Charleston, WV 25304  
 Phone: (304) 926-0475 • www.dep.wv.gov/daq

**APPLICATION FOR GENERAL PERMIT REGISTRATION**  
 CONSTRUCT, MODIFY, RELOCATE OR ADMINISTRATIVELY UPDATE  
 A STATIONARY SOURCE OF AIR POLLUTANTS

- CONSTRUCTION     MODIFICATION     RELOCATION     CLASS I ADMINISTRATIVE UPDATE  
 CLASS II ADMINISTRATIVE UPDATE

**CHECK WHICH TYPE OF GENERAL PERMIT REGISTRATION YOU ARE APPLYING FOR:**

- |   |   |
|---|---|
| <input type="checkbox"/> <b>G10-D</b> – Coal Preparation and Handling                                   | <input type="checkbox"/> <b>G40-C</b> – Nonmetallic Minerals Processing                             |
| <input type="checkbox"/> <b>G20-B</b> – Hot Mix Asphalt   | <input type="checkbox"/> <b>G50-B</b> – Concrete Batch  |
| <input type="checkbox"/> <b>G30-D</b> – Natural Gas Compressor Stations                                 | <input type="checkbox"/> <b>G60-C</b> - Class II Emergency Generator                                |
| <input type="checkbox"/> <b>G33-A</b> – Spark Ignition Internal Combustion Engines                      | <input type="checkbox"/> <b>G65-C</b> – Class I Emergency Generator                                 |
| <input type="checkbox"/> <b>G35-A</b> – Natural Gas Compressor Stations (Flare/Glycol Dehydration Unit) | <input checked="" type="checkbox"/> <b>G70-A</b> – Class II Oil and Natural Gas Production Facility |

**SECTION I. GENERAL INFORMATION**

|  |  |  |  |
|--|--|--|--|
| 1. Name of applicant (as registered with the WV Secretary of State's Office):<br><b>Antero Resources Corporation</b>   |  | 2. Federal Employer ID No. (FEIN):<br>80-0162034   |  |
| 3. Applicant's mailing address:<br>1615 Wynkoop St.<br>_____<br>Denver, CO, 80202<br>_____   |  | 4. Applicant's physical address:<br><u>0.58 miles northeast from the intersection of WV-18 and Sugar</u><br><u>Camp Rd</u> |  |
| 5. If applicant is a subsidiary corporation, please provide the name of parent corporation:  |  |  |  |
| 6. <b>WV BUSINESS REGISTRATION.</b> Is the applicant a resident of the State of West Virginia? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO<br>– IF YES, provide a copy of the Certificate of <b>Incorporation/ Organization / Limited Partnership</b> (one page) including any name change amendments or other Business Registration Certificate as <b>Attachment A</b> .<br>– IF NO, provide a copy of the <b>Certificate of Authority / Authority of LLC / Registration</b> (one page) including any name change amendments or other Business Certificate as <b>Attachment A</b> . |  |  |  |

**SECTION II. FACILITY INFORMATION**

|   |   |     |   |
|---|---|-----|---|
| 7. Type of plant or facility (stationary source) to be constructed, modified, relocated or administratively updated (e.g., coal preparation plant, primary crusher, etc.):<br>Natural Gas and Oil Production facility | 8a. Standard Industrial Classification<br>Classification (SIC) code: 1311   | AND | 8b. North American Industry System (NAICS) code: 211111 |
| 9. DAQ Plant ID No. (for existing facilities only):<br><u>017-00151</u>   | 10. List all current 45CSR13 and other General Permit numbers associated with this process (for existing facilities only):<br><u>G70-A153</u><br>_____<br>_____ |     |   |

**A: PRIMARY OPERATING SITE INFORMATION**

|   |  |   |
|---|--|---|
| 11A. Facility name of primary operating site:<br><br>_____<br>Willard Well Pad  | 12A. Address of primary operating site:<br><br>Mailing: _____ N/A _____ Physical: <u>0.58 miles northeast from the intersection of WV-18 and Sugar Camp Rd</u> |   |
| 13A. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? <span style="float:right"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</span><br>- IF YES, please explain: _____<br>_____<br>- IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.  |  |   |
| 14A. - For <b>Modifications or Administrative Updates</b> at an existing facility, please provide directions to the present location of the facility from the nearest state road;<br>- For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a <b>MAP as Attachment F</b> .<br>To access the pad from US 50E, turn right onto WV-18S. In 5.8 miles, turn left onto the access road and follow to the location. |  |   |
| 15A. Nearest city or town:<br><br>New Milton  | 16A. County:<br><br>Doddridge  | 17A. UTM Coordinates:<br><br>Northing (KM): 4345.1618<br>Easting (KM): 526.6835<br>Zone: 17 N                                   |
| 18A. Briefly describe the proposed new operation or change (s) to the facility:<br><br>N/A  |  | 19A. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits):<br><br>Latitude: 39.255373<br>Longitude: -80.690733 |

**B: 1<sup>ST</sup> ALTERNATE OPERATING SITE INFORMATION (only available for G20, G40, & G50 General Permits)**

|   |  |   |
|---|--|---|
| 11B. Name of 1 <sup>st</sup> alternate operating site:<br><br>_____<br>_____  | 12B. Address of 1 <sup>st</sup> alternate operating site:<br><br>Mailing: _____ Physical: _____<br>_____ |   |
| 13B. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? <span style="float:right"><input type="checkbox"/> YES <input type="checkbox"/> NO</span><br>- IF YES, please explain: _____<br>_____<br>- IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.   |  |   |
| 14B. - For <b>Modifications or Administrative Updates</b> at an existing facility, please provide directions to the present location of the facility from the nearest state road;<br>- For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a <b>MAP as Attachment F</b> .<br><br>_____<br>_____<br>_____ |  |   |
| 15B. Nearest city or town:  | 16B. County:   | 17B. UTM Coordinates:<br><br>Northing (KM): _____<br>Easting (KM): _____<br>Zone: _____ |

|   |  |
|---|--|
| 18B. Briefly describe the proposed new operation or change (s) to the facility: | 19B. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits):<br>Latitude: _____<br>Longitude: _____ |
|---|--|

**C: 2<sup>ND</sup> ALTERNATE OPERATING SITE INFORMATION (only available for G20, G40, & G50 General Permits):**

|  |   |
|--|---|
| 11C. Name of 2 <sup>nd</sup> alternate operating site:<br>_____<br>_____ | 12C. Address of 2 <sup>nd</sup> alternate operating site:<br>Mailing: _____ Physical: _____ |
|--|---|

13C. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site?  YES  NO

– IF YES, please explain: \_\_\_\_\_

– IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.

14C. – For **Modifications or Administrative Updates** at an existing facility, please provide directions to the present location of the facility from the nearest state road;

– For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a **MAP** as **Attachment F**.

\_\_\_\_\_

\_\_\_\_\_

|                            |              |   |
|----------------------------|--------------|---|
| 15C. Nearest city or town: | 16C. County: | 17C. UTM Coordinates:<br>Northing (KM): _____<br>Easting (KM): _____<br>Zone: _____ |
|----------------------------|--------------|---|

|   |  |
|---|--|
| 18C. Briefly describe the proposed new operation or change (s) to the facility: | 19C. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits):<br>Latitude: _____<br>Longitude: _____ |
|---|--|

|   |  |
|---|--|
| 20. Provide the date of anticipated installation or change:<br><br><u>N/A</u><br><br><input type="checkbox"/> If this is an <b>After-The-Fact</b> permit application, provide the date upon which the proposed change did happen: :<br><br>____/____/____ | 21. Date of anticipated Start-up if registration is granted:<br><br><u>N/A</u> |
|---|--|

22. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application if other than 8760 hours/year. (Note: anything other than 24/7/52 may result in a restriction to the facility's operation).

Hours per day \_\_\_\_\_ Days per week \_\_\_\_\_ Weeks per year \_\_\_\_\_ Percentage of operation \_\_\_\_\_

### SECTION III. ATTACHMENTS AND SUPPORTING DOCUMENTS

23. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

24. Include a **Table of Contents** as the first page of your application package.

All of the required forms and additional information can be found under the Permitting Section (General Permits) of DAQ's website, or requested by phone.

25. Please check all attachments included with this permit application. Please refer to the appropriate reference document for an explanation of the attachments listed below.

- ATTACHMENT A : CURRENT BUSINESS CERTIFICATE
- ATTACHMENT B: PROCESS DESCRIPTION
- ATTACHMENT C: DESCRIPTION OF FUGITIVE EMISSIONS
- ATTACHMENT D: PROCESS FLOW DIAGRAM
- ATTACHMENT E: PLOT PLAN
- ATTACHMENT F: AREA MAP
- ATTACHMENT G: EQUIPMENT DATA SHEETS AND REGISTRATION SECTION APPLICABILITY FORM
- ATTACHMENT H: AIR POLLUTION CONTROL DEVICE SHEETS
- ATTACHMENT I: EMISSIONS CALCULATIONS
- ATTACHMENT J: CLASS I LEGAL ADVERTISEMENT
- ATTACHMENT K: ELECTRONIC SUBMITTAL
- ATTACHMENT L: GENERAL PERMIT REGISTRATION APPLICATION FEE
- ATTACHMENT M: SITING CRITERIA WAIVER
- ATTACHMENT N: MATERIAL SAFETY DATA SHEETS (MSDS)
- ATTACHMENT O: EMISSIONS SUMMARY SHEETS
- OTHER SUPPORTING DOCUMENTATION NOT DESCRIBED ABOVE (Equipment Drawings, Aggregation Discussion, etc.)

Please mail an original and two copies of the complete General Permit Registration Application with the signature(s) to the DAQ Permitting Section, at the address shown on the front page of this application. Please DO NOT fax permit applications. For questions regarding applications or West Virginia Air Pollution Rules and Regulations, please refer to the website shown on the front page of the application or call the phone number also provided on the front page of the application.

SECTION IV. CERTIFICATION OF INFORMATION

This General Permit Registration Application shall be signed below by a Responsible Official. A Responsible Official is a President, Vice President, Secretary, Treasurer, General Partner, General Manager, a member of a Board of Directors, or Owner, depending on business structure. A business may certify an Authorized Representative who shall have authority to bind the Corporation, Partnership, Limited Liability Company, Association, Joint Venture or Sole Proprietorship. Required records of daily throughput, hours of operation and maintenance, general correspondence, Emission Inventory, Certified Emission Statement, compliance certifications and all required notifications must be signed by a Responsible Official or an Authorized Representative. If a business wishes to certify an Authorized Representative, the official agreement below shall be checked off and the appropriate names and signatures entered. Any administratively incomplete or improperly signed or unsigned Registration Application will be returned to the applicant.

FOR A CORPORATION (domestic or foreign)

I certify that I am a President, Vice President, Secretary, Treasurer or in charge of a principal business function of the corporation

FOR A PARTNERSHIP

I certify that I am a General Partner

FOR A LIMITED LIABILITY COMPANY

I certify that I am a General Partner or General Manager

FOR AN ASSOCIATION

I certify that I am the President or a member of the Board of Directors

FOR A JOINT VENTURE

I certify that I am the President, General Partner or General Manager

FOR A SOLE PROPRIETORSHIP

I certify that I am the Owner and Proprietor

I hereby certify that (please print or type) \_\_\_\_\_ is an Authorized Representative and in that capacity shall represent the interest of the business (e.g., Corporation, Partnership, Limited Liability Company, Association Joint Venture or Sole Proprietorship) and may obligate and legally bind the business. If the business changes its Authorized Representative, a Responsible Official shall notify the Director of the Office of Air Quality immediately, and/or,

I hereby certify that all information contained in this General Permit Registration Application and any supporting documents appended hereto is, to the best of my knowledge, true, accurate and complete, and that all reasonable efforts have been made to provide the most comprehensive information possible

Signature \_\_\_\_\_  
(please use blue ink) Responsible Official Date

Name & Title Barry Schatz, Senior Environmental & Regulatory Manager

(please print or type)  
Signature Barry Schatz Date 6-9-2015  
(please use blue ink) Authorized Representative (if applicable)

Applicant's Name Antero Resources Corporation

Phone & Fax 303-357-7276 303-357-7315  
Phone Fax

Email bschatz@anteroresources.com



**Attachment R  
AUTHORITY OF CORPORATION  
OR OTHER BUSINESS ENTITY (DOMESTIC OR FOREIGN)**

TO: The West Virginia Department of Environmental Protection,  
Division of Air Quality

DATE: January 23, 2015

ATTN.: Director

Corporation's / other business entity's Federal Employer I.D. Number 80-0162034

The undersigned hereby files with the West Virginia Department of Environmental Protection, Division of Air Quality, a permit application and hereby certifies that the said name is a trade name which is used in the conduct of an incorporated business or other business entity.

Further, the corporation or the business entity certifies as follows:

(1) Barry Schatz (is/are) the authorized representative(s) and in that capacity may represent the interest of the corporation or the business entity and may obligate and legally bind the corporation or the business entity.

(2) The corporation or the business entity is authorized to do business in the State of West Virginia.

(3) If the corporation or the business entity changes its authorized representative(s), the corporation or the business entity shall notify the Director of the West Virginia Department of Environmental Protection, Division of Air Quality, immediately upon such change.



\_\_\_\_\_  
President or Other Authorized Officer  
(Vice President, Secretary, Treasurer or other  
official in charge of a principal business function of  
the corporation or the business entity)

(If not the President, then the corporation or the business entity must submit certified minutes or bylaws stating legal authority of other authorized officer to bind the corporation or the business entity).

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
Name of Corporation or business entity

MAY 04 2015



---

west virginia department of environmental protection

---

Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone 304/926-0475

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

April 24, 2015

CERTIFIED MAIL  
91 7199 9991 7035 6692 5526

Barry Schatz  
1615 Wynkoop Street  
Denver, CO 80202

RE: Approved Registration G70-A  
G70-A153  
Antero Resources Corporation  
Willard Wellpad  
Facility ID No. 017-0015~~8~~

Dear Mr. Schatz,

The Director has determined that the submitted Registration Application and proposed modification and operation of an oil and natural gas production facility demonstrates eligibility and compliance with the requirements, provisions, standards and conditions of General Permit G70-A and hereby grants General Permit registration authorizing the proposed activity.

General Permit G70-A can be accessed electronically at [www.dep.wv.gov/daq/permitting/Pages/airgeneralpermit.aspx](http://www.dep.wv.gov/daq/permitting/Pages/airgeneralpermit.aspx). Hard copies are available upon request by contacting Danielle Wentz at (304)926-0499 ext. 1193.

Please be aware of the actions required in Monitoring Requirements, Testing Requirements, Recordkeeping Requirements, and the Reporting Requirements.

Should you have any questions, please contact the undersigned engineer at (304)926-0499 ext. 1224 or David.J.Keatley@wv.gov.

Sincerely,



David Keatley  
Permit Writer - NSR Permitting

Enclosures: Registration G70-A153

*West Virginia Department of Environmental Protection  
Division of Air Quality*

*Earl Ray Tomblin  
Governor*

*Randy C. Huffman  
Cabinet Secretary*

**Class II General Permit  
G70-A Registration to Construct**



for the  
Prevention and Control of Air Pollution in regard to the  
Construction, Modification, Relocation, Administrative Update and  
Operation of Oil and Natural Gas Production Facilities  
Located at the Well Site

*The permittee identified at the facility listed below is authorized to  
construct the stationary sources of air pollutants identified herein in accordance  
with all terms and conditions of General Permit G70-A.*

**G70-A153**

Issued to:

**Antero Resources Corporation  
Willard Wellpad  
017-00151**

A handwritten signature in blue ink, appearing to read "William F. Durham", is written over a horizontal line.

*William F. Durham  
Director*

*Issued: April 24, 2015*

Facility Location: Near New Milton, Doddridge County, West Virginia  
Mailing Address: 1615 Wynkoop Street  
Denver, CO 80202  
Facility Description: Natural Gas/Condensate Production Facility  
NAICS Code: 211111  
SIC Code: 1311  
UTM Coordinates: 526.684 km Easting • 4,345.162 km Northing • Zone 17  
Longitude Coordinate: -80.69073  
Latitude Coordinate: 39.25537  
Directions to Facility: From the intersection of US 50 and WV 18. Turn onto WV 18 and travel south for approximately 5.8 miles. The access road is on the left  
Registration Type: Construction  
Description of Change: Installation and operation of: nine (9) 1.5-mmBtu/hr GPU heaters, ten (10) 400-bbl condensate tanks, two (2) 400-bbl produced water tanks, one (1) 6.6-mmBTU/hr combustor, and one (1) 24-bhp compressor engine.

Subject to 40CFR60, Subpart OOOO? Yes, gas well affected facility.

Subject to 40CFR60, Subpart JJJJ? Yes.

Subject to 40CFR63, Subpart ZZZZ? Yes, comply with subpart JJJJ requirements.

Subject to 40CFR63, Subpart HH? No.

*Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit or registration issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [ §§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.*

---

*The source is not subject to 45CSR30.*

---

**Permit Section Applicability for the Registrant**

*All registered facilities under General Permit G70-A are subject to Sections 1.0, 2.0, 3.0, and 4.0 of General Permit G70-A.*

The following additional sections of General Permit G70-A apply to the registrant:

|            |  |                                     |
|------------|--|-------------------------------------|
| Section 5  | Natural Gas Well Affected Facility   | <input checked="" type="checkbox"/> |
| Section 6  | Storage Vessels*   | <input checked="" type="checkbox"/> |
| Section 7  | Gas Production Units, In-Line Heaters, Heater Treaters, and Glycol Dehydration Reboilers   | <input checked="" type="checkbox"/> |
| Section 8  | Pneumatic Controllers Affected Facility (NSPS, Subpart OOOO)   | <input type="checkbox"/>            |
| Section 9  | <i>Reserved</i>  | <input type="checkbox"/>            |
| Section 10 | Natural Gas-Fired Compressor Engine (s) (RICE)**   | <input checked="" type="checkbox"/> |
| Section 11 | Tank Truck Loading Facility***   | <input checked="" type="checkbox"/> |
| Section 12 | Standards of Performance for Storage Vessel Affected Facilities (NSPS, Subpart OOOO)   | <input type="checkbox"/>            |
| Section 13 | Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (NSPS, Subpart JJJJ)                                    | <input checked="" type="checkbox"/> |
| Section 14 | Control Devices not subject to NSPS, Subpart OOOO  | <input checked="" type="checkbox"/> |
| Section 15 | National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40CFR63, Subpart ZZZZ) | <input checked="" type="checkbox"/> |
| Section 16 | Glycol Dehydration Units   | <input type="checkbox"/>            |
| Section 17 | Dehydration Units With Exemption from NESHAP Standard, Subpart HH § 63.764(d) (40CFR63, Subpart HH)  | <input type="checkbox"/>            |
| Section 18 | Dehydration Units Subject to NESHAP Standard, Subpart HH and Not Located Within an UA/UC (40CFR63, Subpart HH)                             | <input type="checkbox"/>            |
| Section 19 | Dehydration Units Subject to NESHAP Standard, Subpart HH and Located Within an UA/UC (40CFR63, Subpart HH)                                 | <input type="checkbox"/>            |

\* The registrant may also be subject to the applicable control device requirements of Section 12 if the registrant is subject to the NSPS, Subpart OOOO control requirements or may be subject to the control device requirements of Section 14.

\*\* The registrant may also be subject to the applicable RICE requirements of Section 13 and/or Section 15.

\*\*\* The registrant may also be subject to the applicable control device requirements of Section 14.

**1.0 Emission Units Table**

| Emission Unit ID   | Emission Point ID       | Emission Unit Description (Mfg., Model, Serial No., Engine type 2SLB, 4SLB, 4SRB, etc.) | Control Device ID         | Year Installed / Modified | Max. Design Capacity                  | Design Capacity Unit of Measure | G70-A Applicable Sections |
|--|-------------------------|---|---------------------------|---------------------------|---------------------------------------|---------------------------------|---------------------------|
| EU-H001 Through EU-H009  | EP-H001 Through EP-H009 | GPU Heaters   | N/A                       | 2015                      | 1.5 (each)                            | MMBtu/hr                        | 7                         |
| TANKCOND 001-010   | EC001                   | Ten (10) Condensate Tanks   | EC001                     | 2015                      | 400 (each)                            | BBL                             | 6                         |
| TANKPW 001-002   | EC001                   | Two (2) Produced Water Tanks  | EC001                     | 2015                      | 400 (each)                            | BBL                             | 6                         |
| ENG001   | EP-ENG001               | Compressor Engine Kubota DG972-E2   | None                      | 2015                      | 24                                    | bhp                             | 10, 13, 15                |
| EU-L001 and EU-L002  | EP-L001 And EP-L002     | Condensate and Produced Water Truck Loading   | None                      | 2015                      | 3,449,250 and 41,391,000 respectively | gallons/year                    | 11, 14                    |
| <b>Control Devices</b>   |                         |   |                           |                           |                                       |                                 |                           |
| Control Device ID  | Control Efficiency %    | Control Device Description (Mfg, Model)   | Year Installed / Modified | Max. Design Capacity      | Design Capacity Unit of Measure       | G-70A Applicable Sections       |                           |
| EC001  | 98%                     | Cimarron Combustor (Controlling TANKCOND and TANKPW)                                    | 2014                      | 6.6                       | MMBtu/hr                              | 12, 14                          |                           |
| <b>Emission Reduction Systems</b>                                    |                         |   |                           |                           |                                       | Yes or No                       | G-70A Applicable Sections |
| Was a vapor recovery system (VRU) used to determine emission limits? |                         |   |                           |                           |                                       | No                              | -                         |
| Was a low pressure tower(s) used to determine emission limits?       |                         |   |                           |                           |                                       | No                              | -                         |

### 2.0 Oil and Natural Gas Wells Table

| API number       | API number       | API number |
|------------------|------------------|------------|
| 047-017-06406-00 | 047-017-06407-00 |            |

### 3.0 Emission Limitations

| Emission Unit ID                                | Emission Point ID             | Emission Unit Description   | Regulated Pollutant        | Maximum Potential Emissions |              |
|---|-------------------------------|---|----------------------------|-----------------------------|--------------|
|   |                               |   |                            | Hourly (lb/hr)              | Annual (tpy) |
| TANKCOND<br>001-010<br>and<br>TANKPW<br>001-002 | EC001                         | Cimarron Combustor<br><br>(Controlling<br>Condensate Tanks and<br>Produced Water Tanks) | Nitrogen Oxides            | 0.16                        | 0.68         |
|   |                               |   | Carbon Dioxide             | 0.13                        | 0.57         |
|   |                               |   | Volatile Organic Compounds | 1.47                        | 6.44         |
|   |                               |   | n-Hexane                   | 0.04                        | 0.18         |
| ENG001  | EP-ENG001                     | Kubota DG972-E2<br>Compressor Engine  | Nitrogen Oxides            | 0.32                        | 1.39         |
|   |                               |   | Carbon Monoxide            | 5.65                        | 24.73        |
|   |                               |   | Volatile Organic Compounds | 0.01                        | 0.03         |
| EU-H001<br>Through<br>EU-H009                   | EP-H001<br>Through<br>EP-H009 | GPU Heaters   | Nitrogen Oxides            | 1.00                        | 4.35         |
|   |                               |   | Carbon Monoxide            | 0.84                        | 3.66         |
|   |                               |   | Volatile Organic Compounds | 0.06                        | 0.24         |

### 4.0 Throughput Limitations

Throughput limits are on a 12-month rolling total basis.

| Emission Unit ID | Emission Point ID | Emission Unit Description | Annual Throughput Limit |
|------------------|-------------------|---------------------------|-------------------------|
| EU-L001          | EP-L001           | Condensate Truck Loading  | 3,449,250 gallons/year  |

### 5.0 Reciprocating Internal Combustion Engines (R.I.C.E.) Information

| Emission Unit ID | Engine Manufacturing Date | Subject to 40CFR60, Subpart JJJJ? | Subject to 40CFR63, Subpart ZZZZ? | Subject to Sections 10.1.4 / 10.2.1 (Catalytic Reduction Device) |
|------------------|---------------------------|-----------------------------------|-----------------------------------|--|
| ENG001           | 2013                      | Yes                               | Yes                               | No   |





---

west virginia department of environmental protection

---

Division of Air Quality  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

April 24, 2015

Barry Schatz  
Antero Resources Corporation  
1615 Wynkoop Street  
Denver, CO 80202

**RE: CERTIFICATE TO OPERATE  
NEW FACILITY – 01700151**

Dear Mr. Schatz:

A General Permit was obtained for the attached facility through the West Virginia Department of Environmental Protection's Division of Air Quality. In accordance with that permit and Rule 45CSR22, your company is receiving the attached Application for Certificate to Operate (CTO). Please complete and return the application prior to start-up or by the due date listed to avoid penalties.

CTOs are issued during the West Virginia state fiscal period, July 1 through June 30 of each year or for any portion of such year remaining upon initial new source start-up. In future years, an application will be mailed to you at the end of June and should be returned by July 31.

**This is a CTO for initial new source start up; therefore, if this facility will be operating before June 30, 2015, please use the prorated fee schedule located on the bottom back of the CTO to determine the correct fee. If the facility will not begin operation until after June 30, 2015, then you may wait to complete and return the next CTO application for the new fiscal year (July 1, 2015 – June 30, 2016).**

If you have any questions, please contact me at 304-926-0499, extension 1227, or via email at [Jennifer.L.Rice@wv.gov](mailto:Jennifer.L.Rice@wv.gov).

Sincerely,

Jennifer Rice  
Permitting

Attachment

Promoting a healthy environment.

**Attachment O: G70-A Emissions Summary Sheet**

**Emission Points Data Summary Sheet**

Table 1: Emissions Data

| Emission Point ID No.<br><i>(Must match Emission Units Table &amp; Plot Plan)</i> | Emission Point Type: | Emission Unit Vented Through This Point<br><i>(Must match Emission Units Table &amp; Plot Plan)</i> |  | Air Pollution Control Device<br><i>(Must match Emission Units Table &amp; Plot Plan)</i> |                    | All Regulated Pollutants<br>Chemical Name/CAS#<br><i>(Speciate VOCs &amp; HAPS)</i> | Maximum Potential Uncontrolled Emissions 4 |         | Maximum Potential Controlled Emissions 5 |         | Emission Form or Phase<br><i>(At exit conditions, Solid, Liquid or Gas/Vapor)</i> | Est. Method Used 6 |
|---|----------------------|---|--|--|--------------------|---|--|---------|--|---------|---|--------------------|
|   |                      | ID No.  | Source   | ID No.   | Device Type        |   | lb/hr                                      | ton/yr  | lb/hr                                    | ton/yr  |   |                    |
| EP-H001, EP-H002, EP-H003, EP-H004, EP-H005, EP-H006, EP-H007, EP-H008, EP-H009   | Vertical Stack       | H001, H002, H003, H004, H005, H006, H007, H008, H009  | Gas Production Unit Heater                         | N/A  |                    | CO (630080)   | 0.91                                       | 3.98    | 0.91                                     | 3.98    | Gas/Vapor/Solid (for PM)  | MB AP-42           |
|   |                      |   |  |  |                    | NOx (10102439)  | 1.08                                       | 4.74    | 1.08                                     | 4.74    |   |                    |
|   |                      |   |  |  |                    | CO2 Equivalent<br>N2O (10024972), CO2 (124389), CH4 (74828)                         | 1306.78                                    | 5723.67 | 1306.78                                  | 5723.67 |   |                    |
|   |                      |   |  |  |                    | SO2 (7446095)   | 0.01                                       | 0.03    | 0.01                                     | 0.03    |   |                    |
|   |                      |   |  |  |                    | PM, PM10, PM2.5   | 0.08                                       | 0.36    | 0.08                                     | 0.36    |   |                    |
|   |                      |   |  |  |                    | Hexane (110543)   | 0.02                                       | 0.09    | 0.02                                     | 0.09    |   |                    |
|   |                      |   |  |  |                    | Total VOCs  | 0.06                                       | 0.26    | 0.06                                     | 0.26    |   |                    |
| F001  | n/a                  | F001  | Fugitives  | N/A  |                    | Toluene (108883)  | 0.01                                       | 0.05    | 0.01                                     | 0.05    | Gas/Vapor   | MB                 |
|   |                      |   |  |  |                    | Ethyl benzene (100414)  | 0.02                                       | 0.09    | 0.02                                     | 0.09    |   |                    |
|   |                      |   |  |  |                    | Hexane (110543)   | 0.17                                       | 0.73    | 0.17                                     | 0.73    |   |                    |
|   |                      |   |  |  |                    | o,m,p-xylenes (95476,108383,106423)   | 0.05                                       | 0.24    | 0.05                                     | 0.24    |   |                    |
|   |                      |   |  |  |                    | CO2 Equivalent<br>CO2 (124389), CH4   | 72.64                                      | 318.18  | 72.64                                    | 318.18  |   |                    |
|   |                      |   |  |  |                    | VOCs  | 3.43                                       | 15.02   | 3.43                                     | 15.02   |   |                    |
| EP-L001, EP-L002  | n/a                  | L001, L002  | Loading (Condensate), Loading (Water)              | N/A  |                    | VOCs  | 4.72                                       | 0.81    | 4.72                                     | 0.81    | Gas/Vapor   | MB                 |
|   |                      |   |  |  |                    | CO2 Equivalent<br>CO2 (124389), CH4   | 8.73                                       | 3.37    | 8.73                                     | 3.37    |   |                    |
| EP-HR001  | n/a                  | HR001   | Haul Truck   | N/A  |                    | PM, PM10, PM2.5   | 6.37                                       | 8.40    | 3.18                                     | 4.20    | Solid   | MB                 |
| EC001   | n/a                  | TANKCOND001-010, TANKPW001-002, and EC001   | Condensate Tanks, PW Tanks, and Enclosed Combustor | N/A  | Enclosed Combustor | CO (630080)   | 0.00                                       | 0.00    | 0.13                                     | 0.57    | Gas/Vapor/Solid (for PM)  | MB                 |
|   |                      |   |  |  |                    | NOx (10102439)  | 0.00                                       | 0.00    | 0.16                                     | 0.68    |   |                    |
|   |                      |   |  |  |                    | CO2 Equivalent<br>N2O (10024972), CO2 (124389), CH4                                 | 704.92                                     | 3087.55 | 428.75                                   | 1877.95 |   |                    |
|   |                      |   |  |  |                    | Benzene (71432)   | 0.04                                       | 0.18    | 0.00                                     | 0.00    |   |                    |
|   |                      |   |  |  |                    | Toluene (108883)  | 0.11                                       | 0.47    | 0.00                                     | 0.01    |   |                    |
|   |                      |   |  |  |                    | ethyl benzene (100414)  | 0.08                                       | 0.33    | 0.00                                     | 0.01    |   |                    |
|   |                      |   |  |  |                    | hexane (110543)   | 2.04                                       | 8.92    | 0.04                                     | 0.18    |   |                    |
|   |                      |   |  |  |                    | o,m,p-xylenes (95476,108383,106423)   | 0.15                                       | 0.65    | 0.00                                     | 0.01    |   |                    |
|   |                      |   |  |  |                    | VOCs  | 73.55                                      | 322.17  | 1.47                                     | 6.44    |   |                    |
|   |                      |   |  |  |                    | EP-PCV  | valve                                      | PCV     | Pneumatic CV                             | N/A     |   |                    |
| CO2 Equivalent<br>CO2 (124389), CH4   | 8.13                 | 35.61   | 8.13   | 35.61  |                    |   |  |         |  |         |   |                    |
| VOCs  | 0.10                 | 0.45  | 0.10   | 0.45   |                    |   |  |         |  |         |   |                    |
| EP-ENG001   | Vertical Stack       | ENG001  | Compressor Engine                                  | N/A  |                    | CO (630080)   | 5.64                                       | 24.72   | 5.64                                     | 24.72   | Gas/Vapor/Solid (for PM)  | MB                 |
|   |                      |   |  |  |                    | NOx (10102439)  | 0.32                                       | 1.38    | 0.32                                     | 1.38    |   |                    |
|   |                      |   |  |  |                    | CO2 Equivalent<br>N2O (10024972), CO2 (124389), CH4 (74828)                         | 27.78                                      | 121.66  | 27.78                                    | 121.66  |   |                    |
|   |                      |   |  |  |                    | Total VOCs  | 0.01                                       | 0.03    | 0.01                                     | 0.03    |   |                    |