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west virginia department of environmental protection

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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

January 12, 2015

CERTIFIED MAIL  
91 7199 9991 7034 1379 7757

Donald Gray  
1615 Wynkoop Street  
Denver, CO 80202

RE: Approved Registration G70-A005A  
Antero Resources Corporation  
Hamilton Wellpad  
Facility ID No. 017-00078

Dear Mr. Gray:

The Director has determined that the submitted Registration Application and proposed update 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. 1222 or Roy.F.Kees@wv.gov.

Sincerely,

Roy F. Kees, P.E.  
Engineer - NSR Permitting

Enclosures: Registration G70-A005A

*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 Update



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-A005A**

Issued to:

**Antero Resources Corporation  
Hamilton Wellpad  
017-00078**

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

*William F. Durham  
Director*

*Issued: January 12, 2015 • Effective: January 12, 2015*

Facility Location: Shirley, Doddridge County, West Virginia  
Mailing Address: 1625 17<sup>th</sup> Street, Denver, CO 80202  
Facility Description: Natural Gas Production  
NAICS Code: 211111  
SIC Code: 1311  
UTM Coordinates: 522.133 km Easting • 4,357.470 km Northing • Zone 17  
Longitude Coordinates: -80.743689  
Latitude Coordinates: 39.367750  
Directions to Facility: Head East on WV-23E toward C/R 64 / Braden Hill for 2.2 miles. Turn right onto C/R 3 / Big Flint Road for 1.1 miles. Take 1st right onto C/R 14 / Little Flint Road for 1.9 miles. Turn right onto C/R 24 / Camp Mistake.  
Registration Type: Class II Administrative Update  
Description of Change: Administrative update to remove VRU engine, replace compressor with a smaller unit and increase condensate throughput.

Subject to 40CFR60, Subpart OOOO? Yes

Subject to 40CFR60, Subpart JJJJ? Yes, Certified

Subject to 40CFR63, Subpart ZZZZ? Yes, Compliance is Demonstrated with Subpart JJJJ

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.*

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*The source is not subject to 45CSR30.*

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**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 checked="" 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 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
H001	EP-H001	Heater Treater	--	2013	1.5	mmBtu/hr	7
H002	EP-H002	Heater Treater	--	2013	1.5	mmBtu/hr	7
H003	EP-H003	Heater Treater	--	2013	1.5	mmBtu/hr	7
H004	EP-H004	Heater Treater	--	2013	1.5	mmBtu/hr	7
H005	EP-H005	Heater Treater	--	2013	1.5	mmBtu/hr	7
H006	EP-H006	Heater Treater	--	2013	1.5	mmBtu/hr	7
H007	EP-H007	Heater Treater	--	2013	1.5	mmBtu/hr	7
TANKCOND001	FL-001	Condensate Tank	FL-001	2013	400	Bbl	6 & 14
TANKCOND002	FL-001	Condensate Tank	FL-001	2013	400	Bbl	6 & 14
TANKCOND003	FL-001	Condensate Tank	FL-001	2013	400	Bbl	6 & 14
TANKCOND004	FL-001	Condensate Tank	FL-001	2013	400	Bbl	6 & 14
TANKCOND005	FL-001	Condensate Tank	FL-001	2013	400	Bbl	6 & 14
TANKCOND006	FL-001	Condensate Tank	FL-001	2013	400	Bbl	6 & 14
TANKCOND007	FL-001	Condensate Tank	FL-001	2013	400	Bbl	6 & 14
TANKPW001	FL-001	Produced Water Tank	FL-001	2013	400	Bbl	6 & 14
TANKPW002	FL-001	Produced Water Tank	FL-001	2013	400	Bbl	6 & 14
ENG001	FL-001	Kubota DG972-E2	--	2014	23.8	hp	10, 13 & 15
L001	EP-L001	Cond. Loading	--	2014	2,146,200	Gal/year	11
<b>Control Devices (If applicable)</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	
FL001	98	Cimmaron Model 48" HV ECD Flare	2013	140,699	Scfm	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
047-017-06194	047-017-06417	
047-017-06260	047-017-06401	
047-017-06205		
047-017-06304		
047-017-06416		

## 3.0 Emission Limitations

Emission Unit ID	Emission Point ID	Emission Unit Description	Regulated Pollutant	Maximum Potential Emissions	
				Hourly (lb/hr)	Annual (tpy)
H001-H007	EP-H001-H07	(7) 1.5mmBtu/hr GPU Heaters	Nitrogen Oxides	0.84	3.69
			Carbon Monoxide	0.71	3.10
TANK001-007	FL-001	(7) 400 BBL Condensate Tanks	Volatile Organic Compounds	2.57	11.26
			Total HAPs	0.27	1.17
ENG001	EP-ENG001	Kubota DG972 Compressor	Nitrogen Oxides	0.32	1.38
			Carbon Monoxide	5.64	24.72
			Volatile Organic Compounds	0.01	0.03
L001	EP-L001	Condensate Truck Loading	Volatile Organic Compounds	6.40	0.68
			Total HAPs	0.05	0.01

## 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
L001	EP-L001	Condensate Truck Loading	2,146,200 gal/yr

## 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 (JJJJ Only)	No