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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](http://www.dep.wv.gov)

February 12, 2016

CERTIFIED MAIL  
91 7199 9991 7035 6692 5953

Barry Schatz  
1615 Wynkoop Street  
Denver, CO 80202

RE: Approved Registration G70-A  
G70-A130B  
Antero Resources Corporation  
James Webb Wellpad  
Facility ID No. 017-00144

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](mailto:David.J.Keatley@wv.gov).

Sincerely,



David Keatley  
Permit Writer - NSR Permitting

Enclosures: Registration G70-A130B

*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 for Modification**



for the  
Protection 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-A130B**

Issued to:

**Antero Resources Corporation  
James Webb Wellpad  
017-00144**

A blue ink signature of William F. Durham, written in a cursive style, is positioned above a horizontal line.

*William F. Durham  
Director*

*Issued: February 12, 2015*

This permitting action supersedes and replaces G70-A130A.

Facility Location: Near Greenwood, Doddridge County, West Virginia  
Mailing Address: 1615 Wynkoop Street  
Denver, CO 80202  
Facility Description: Natural gas and Condensate Production Facility  
NAICS Code: 211111  
SIC Code: 1311  
UTM Coordinates: 510.9548 km Easting • 4,343.2757 km Northing • Zone 17N  
Longitude Coordinates: -80.873061°  
Latitude Coordinates: 39.238719°  
Directions to Facility: From the intersection of WV-19 and Cabin Run, head northeast for 0.47 miles to reach destination on left.  
Registration Type: Modification  
Description of Change: Install and operate: one (1) 1.5-mmBtu/hr gas production unit (GPU) heater, nine (9) 2.0-mmBtu/hr line heaters, and one (1) 12-mmBtu/hr enclosed combustor.

Subject to 40CFR60, Subpart OOOO? Yes.

Subject to 40CFR60, Subpart JJJJ? Yes, the engine is certified. Engine family is DKBXS.9622HP.

Subject to 40CFR63, Subpart ZZZZ? Yes, compliance is demonstrated by compliance with NSPS, 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	X
Section 6	Storage Vessels*	X
Section 7	Gas Production Units, In-Line Heaters, Heater Treaters, and Glycol Dehydration Reboilers	X
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)**	X
Section 11	Tank Truck Loading Facility***	X
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)	X
Section 14	Control Devices not subject to NSPS, Subpart OOOO	X
Section 15	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40CFR63, Subpart ZZZZ)	X
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	Control Device ID	Year Installed / Modified	Max. Design Capacity	Design Capacity Unit of Measure	G70-A Applicable Sections
H001 - H009	EP-H001 - EP-H008	Gas Processing Unit Heaters	None	2015  H009, 2016	1.5 (each)	mmBtu/hr	Section 7
LH001 - LH009	EP-LH001 - EP-LH009	Line Heaters	None	2016	2.0 (each)	mmBtu/hr	Section 7
TANKCOND001 - TANKCOND010	EP-EC001 or EP-EC002	Condensate Tanks	EC001 or EC002	New	400 (each)	bbl	Section 6
TANKPW001 - TANKPW002	EP-EC001 or EP-EC002	Produced Water Tanks	EC001	New	400 (each)	bbl	Section 6
L001	EP-L001	Truck Loading (Condensate)	None	New	11.50	mmgal/yr	Section 11
L002	EP-L002	Truck Loading (Produced Water)	None	New	23.00	mmgal/yr	Section 11
EC001	EP-EC001	Cimarron 48" High Volume ECD Combustor	N/A	New	12	MMBtu/hr	Section 14
EC002	EP-EC002	Cimarron 48" High Volume ECD Combustor	N/A	New	12	MMBtu/hr	Section 14
ENG001	EP-ENG001	Compressor Engine (Kubota DG972-E2)	None	New	24	HP	Sections 10, 13, 15
<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 48" High Volume ECD Combustor	New	12	MMBtu/hr	Section 14	
EC002	98%	Cimarron 48" High Volume ECD Combustor	New	12	MMBtu/hr	Section 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	N/A
Was a low pressure tower(s) used to determine emission limits?						No	N/A

**2.0 Oil and Natural Gas Wells Table**

API number	API number	API number
9 wells not yet permitted by OOG		

**3.0 Emission Limitations**

Emission Unit ID	Emission Point ID	Emission Unit Description	Regulated Pollutant	Maximum Potential Emissions	
				Hourly (lb/hr)	Annual (tpy)
H001 - H009	EP-H001 - EP-H009	Gas Processing Unit Heaters (Emissions per Unit)	NO <sub>x</sub>	0.12	0.53
			CO	0.10	0.44
LH001 - LH009	EP-LH001 - EP-LH009	Line Heaters (Emissions per Unit)	NO <sub>x</sub>	0.16	0.70
			CO	0.13	0.59
TANKCOND001- TANKCOND010, TANKPW001-002, and EC001 or EC002	EP-EC001 or EP-EC002	Enclosed Combustors (Controlling Condensate and Produced Water Tanks) Emissions per Combustor	NO <sub>x</sub>	0.28	1.24
			CO	0.24	1.24
			VOCs	4.74	20.82
			Benzene	0.01	0.03
ENG001	EP-ENG001	Compressor Engine (Kubota DG972-E2)	CO	5.64	24.72
			NO <sub>x</sub>	0.32	1.38
			Formaldehyde	0.01	0.02

**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 Tank Truck Loading	11,497,000 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