



west virginia department of environmental protection

Division of Air Quality
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Charleston, WV 25304
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Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

March 2, 2015

CERTIFIED MAIL

91 7199 9991 7033 2857 1541

Donald Gray
1615 Wynkoop Street
Denver, CO 80202

Re: General Permit Registration G70-A123 Issued
Antero Resources Corporation, Middle Well Pad,
West Union, Doddridge County, WV
Company ID: 017-00142; General Permit Registration: G70-A123

Dear Mr. Gray:

Your application for a permit as required by Section 5 of 45CSR13 - "Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permit, General Permit, and Procedures for Evaluation" has been approved. The enclosed general permit registration (G70-A123) is hereby issued pursuant to Subsection 5.7 of 45CSR13. Please be aware of the notification requirements in the permit which pertain to commencement of construction, modification, or relocation activities; startup of operations; and suspension of operations.

The source are not subject to 45CSR30.

In accordance with 45CSR22 - Air Quality Management Fee Program, enclosed with this permit is an Application for a Certificate to Operate (CTOs), from the date of initial startup through the following June 30. Said application and the appropriate fee shall be submitted to this office no later than 30 days prior to the date of initial startup. For any startup date other than July 1, the permittee shall pay a fee or prorated fee in accordance with the Section 4.5 of 45CSR22. A copy of this schedule may be found on the reverse side of the Application for a Certificate to Operate (CTO).

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 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.

Should you have any questions or comments, please contact me at (304) 926-0499, extension 1257.

Sincerely,



John Legg
Permit Writer

cc: Evan Foster
Katie Peters

Enclosures

*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-A123

Issued to:

**Antero Resources Corporation
Middle Well Pad
017-00142**

A blue ink signature of William F. Durham, written over a horizontal line.

*William F. Durham
Director*

Issued: March 2, 2015

Facility Location: West Union, Doddridge County, West Virginia
Mailing Address: 1615 Wynkoop Street, Denver, CO 80202
Facility Description: Natural Gas Production
NAICS Code: 211111- Crude Petroleum and Natural Gas Extraction
SIC Code: 1311 – Crude Petroleum and Natural Gas
UTM Coordinates: 516.7331 km Easting • 4,352.6971 km Northing • Zone 17N
Lat./Long. Coordinates: 39.323522 degrees N (Latitude) • - 80.805872 degrees W (Longitude)
Directions to Facility: From the intersection of WV-18 S and Slaughter run Road, head southeast on WV-18 S for 0.3 miles. The entrance to the facility will be towards the left.
Registration Type: Construction
Description of Change: Application for the construction of a natural gas well pad consisting of: Eight (8) Gas Production Unit (GPU) heaters at 1.5 MM Btu/hr each; six (6) condensate tanks at 400 barrels (bbl) each; two (2) Produced Water (PW) tanks at 400 bbl each; one (1) condensate loading rack at 200 bbl; one (1) water loading rack at 200 bbl; one (1) flare at 138.8 scfm; one (1) IC compressor engine at 24 HP; and thirty-two (32) pneumatic control valves/bleeds. Each of the thirty-two (32) PCV bleeds are much less than the greater than 6 scf/hr bleed per PCV required to trigger NSPS, Subpart OOOO. These bleeds are viewed as being fugitive VOC emissions and do not appear in the registration.

Subject to 40CFR60, Subpart OOOO? Yes

Subject to 40CFR60, Subpart JJJJ? Yes

Subject to 40CFR63, Subpart ZZZZ? Yes, 40CFR60 Subpart JJJJ Requirements for new engine.

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
H001 thru H008 (Uncontrolled)	EP-H001 thru EP-H008	Eight (8) Gas Production Unit (GPU) Heaters	None	2015	1.5 (each Heater)	mmBtu/hr	7
TANKCOND001 thru TANKCOND006 (Tank Emissions are Controlled)	FL001	Six (6) Condensate Storage Tanks	FL001	2015	400 (each Tank)	bbl	6 & 14
TANKPW001 and TANKPW002	FL001	Two (2) Produced Water Storage Tank	FL001	2015	400 (each Tank)	bbl	6 & 14
ENG001	EP-ENG001	Compressor Engine (Kubota DG972-E2; 4SRB; 24 HP @3600 rpm)	None	2015	24	HP	10, 13 & 15
L001	EP-L001	Condensate Loading	N/A	2015	200	bbl	11
L002	EP-L002	Produced Water Loading	N/A	2015	200	bbl	11
Control Devices (If applicable)							
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	Flare (Model No. Abutec -200)	2015	138.8	Scf/min	14	
Emission Reduction Systems						Yes or No	G-70A Applicable Sections
Was a vapor recovery system (VRU) used to determine emission limits?						No	NA
Was a low pressure tower(s) used to determine emission limits?						No	NA

2.0 Oil and Natural Gas Wells Table

API number	API number
47-017-06589-00	47-017-06647-00

3.0 Emission Limitations

Emission Unit ID	Emission Point ID	Emission Unit Description	Regulated Pollutant	Maximum Potential Emissions	
				Hourly (lb/hr)	Annual (tpy)
H001-H008 (Uncontrolled)	EP-H001 thru EP-H008	(8) 1.5 mmBtu/hr Gas Production Unit (GPU) Heaters	Nitrogen Oxides	0.97	4.22
			Carbon Monoxide	0.81	3.54
			Volatile Organic Compounds	0.06	0.24
			PM(Total)	0.08	0.32
FL001 (TANKCOND001-006, TANKPW001-002) (Controlled)	FL001	(6) 400 bbl Condensate Tanks, (2) 400 bbl Produced Water Tanks, & (1) Flare	Nitrogen Oxides	0.41	1.77
			Carbon Monoxide	0.34	1.49
			Volatile Organic Compounds	6.13	26.83
			Total HAPs	1.09	4.75
ENG001 (Uncontrolled)	ENG001	24 HP Compressor Engine	Nitrogen Oxides	0.32	1.39
			Carbon Monoxide	5.65	24.73
			Volatile Organic Compounds	0.01	0.04
L001, L002 (Uncontrolled)	EP-L001, EP-L002	(2) Condensate and Produced Water Truck Loading	Volatile Organic Compounds	9.70	2.37
			Total HAPs	0.13	0.04

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	4,905,600 gal/yr
L002	EP-L002	Produced Water Truck Loading	58,867,200 gal/yr
TANKCOND 001-006	FL001	Six (6) Condensate Storage Tanks	4,905,600 gal/yr (total)
TANKPW 001-002	FL001	Two (2) Produced Water Storage Tanks	58,867,200 gal/yr (total)

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

Emission Unit ID	Engine Manufacture 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 (40CFR60 Subpart JJJJ Requirements)	No