

*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-A147

Issued to:

Antero Resources Corporation

Jackson Well Pad

085-00049

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

William F. Durham

Director

Issued: March 23, 2015 • Effective: March 23, 2015

This Class II General Permit Registration does not affect any other permits.

Facility Location: Pennsboro, Ritchie County, West Virginia
Mailing Address: 1615 Wynkoop Street, Denver, CO 80202
Facility Description: Natural gas production facility
NAICS Code: 211111
SIC Code: 1311
UTM Coordinates: 501.615 km Easting • 4,349.154 km Northing • Zone 17
Longitude Coordinates: -80.98127
Latitude Coordinates: 39.29176
Directions to Facility: From US-50W, turn right onto Pullman Drive and follow for 1.6 miles. Turn right onto Eagle Drive, and then take the first right onto Collins Avenue. Take the first left onto Rose Hill and continue for 1 mile. The entrance to the pad will be on the left.
Registration Type: Construction
Description of Change: Construction and operation of an oil and natural gas production facility that will include the installation of one (1) natural gas fired flash gas compressor engine, one (1) combustor, ten (10) 400 barrel (bbl) condensate storage tanks, two (2) 400 bbl produced water storage tanks, ten (10) gas production unit (GPU) heaters, one (1) heater treater, and production liquids truck loading.

Subject to 40CFR60, Subpart OOOO? Yes.

Subject to 40CFR60, Subpart JJJJ? Yes. CE-01 (EPA Certificate of Conformity)

Subject to 40CFR63, Subpart ZZZZ? Yes. Compliance is demonstrated for CE-01 by complying with 40CFR60 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.

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
CE-01	13E	Kubota DG972-E2 4SRB	None	2015	24	HP	10, 13, 15
GPU-01 – GPU-10	14E-23E	Ten (10) GPU Heaters	None	2015	1.5	MMBTU/hr	7
T01-T10	24E	Ten (10) Condensate Tanks	FL-01	2015	400	bbl each	6
T11, T12	24E	Two (2) Produced Water Tanks	FL-01	2015	400	bbl each	6
LDOUT	25E	Produced Liquids Truck Loading	None	2015	5,200 (400 condensate, 4,800 PW)	bbl/day	11
FL-01	24E	Abutec 200 Combustor	NA	2015	17	MMBTU/hr	14
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	
FL-01	VOC – 98 % HAP – 98 % CH ₄ – 98%	Abutec 200 Combustor	2015	17	MMBTU/hr	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
Wells have not been drilled yet and are expected to be completed in early 2016. API number will be provided at that time.

3.0 Emission Limitations

Emission Unit ID	Emission Point ID	Emission Unit Description	Regulated Pollutant	Maximum Potential Emissions	
				Hourly (lb/hr)	Annual (tpy)
CE-01	13E	24 HP Kubota DG972-E2 RICE	Nitrogen Oxides	0.32	1.38
			Carbon Monoxide	1.03	4.50
			Volatile Organic Compounds	0.01	0.04
FL-01	24E	Abutec 200 Combustor (including 10 Cond. Tanks, 2 PW Tanks)	Volatile Organic Compounds	2.46	10.79
			Hazardous Air Pollutants	0.06	0.30
			Nitrogen Oxides	0.31	1.37
			Carbon Monoxide	1.70	7.44

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
T01-T10	24E	Ten (10) 400 bbl Condensate Tanks	613,200 gal/yr (Per tank)
T11, T12	24E	Two (2) 400 bbl Produced Water Tanks	36,792,000 gal/yr (Per tank)
LDOUT1	25E	Produced Liquids Truck Loading	6,132,000 gal/yr (cond) 73,584,000 gal/yr (PW)

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)
CE-01	2013	Yes	Yes	No