west virginia department of environmental protection

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

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

March 19, 2015

CERTIFIED MAIL
91 7199 9991 7032 6259 8345

Donald Gray
1615 Wynkoop Street
Denver, CO 80202

RE: Approved Registration G70-A
G70-A136
Antero Resources Corporation
Buck Run Wellpad
Facility ID No. 085-00046

Dear Mr. Gray,

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. 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

David Keatley
Permit Writer - NSR Permitting

Enclosures: Registration G70-A136

West Virginia Department of Environmental Protection
Division of Air Quality

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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-A136

Issued to:
Antero Resources Corporation
Buck Run Wellpad
085-00046

William F. Durham
Director

Issued: March 19, 2015

Facility Location:	near Pennsboro, Ritchie 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:	504.556 km Easting • 4,351.837 km Northing • Zone 17
Longitude Coordinate:	-80.94715
Latitude Coordinate:	39.31592
Directions to Facility:	From the intersection of US 50 and WV 74. Travel north on WV 74 until you reach CR 74-9 (Gnat Run Rd.). Turn right onto CR 74-9 and travel east for approximately 1.6 miles. The facility will be on a hill on the left.
Registration Type:	Construction
Description of Change:	Installation and operation of: ten (10) 1.5-MMBtu/hr GPU heaters, ten (10) 400-bbl condensate tanks, two (2) 400-bbl produced water tanks, one (1) 24-bhp compressor engine, and one (1) 18.4-MMBTU/hr vapor combustor.

Subject to 40CFR60, Subpart OOOO?	Yes, gas well affected facility.
Subject to 40CFR60, Subpart JJJJ?	Yes, engine ENG001 is subject to this regulation and ENG001 is certified.
Subject to 40CFR63, Subpart ZZZZ?	Yes, engine ENG001 is subject to this regulation, but all engines will demonstrate compliance through 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	☒
Section 6	Storage Vessels*	☒
Section 7	Gas Production Units, In-Line Heaters, Heater Treaters, and Glycol Dehydration Reboilers	☒
Section 8	Pneumatic Controllers Affected Facility (NSPS, Subpart OOOO)	☐
Section 9	*Reserved*	☐
Section 10	Natural Gas-Fired Compressor Engine (s) (RICE)**	☒
Section 11	Tank Truck Loading Facility***	☒
Section 12	Standards of Performance for Storage Vessel Affected Facilities (NSPS, Subpart OOOO)	☐
Section 13	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (NSPS, Subpart JJJJ)	☒
Section 14	Control Devices not subject to NSPS, Subpart OOOO	☒
Section 15	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40CFR63, Subpart ZZZZ)	☒
Section 16	Glycol Dehydration Units	☐
Section 17	Dehydration Units With Exemption from NESHAP Standard, Subpart HH § 63.764(d) (40CFR63, Subpart HH)	☐
Section 18	Dehydration Units Subject to NESHAP Standard, Subpart HH and Not Located Within an UA/UC (40CFR63, Subpart HH)	☐
Section 19	Dehydration Units Subject to NESHAP Standard, Subpart HH and Located Within an UA/UC (40CFR63, Subpart HH)	☐

* 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-H010	EP-H001 Through EP-H010	GPU Heaters	N/A	2015	1.5 (each)	mmBtu/hr	7
ENG001	EP-ENG001	Compressor Engine Kubota DG972-E2	None	2015	24	bhp	10, 13, 15
TANKCOND 001-010	FL001	Ten (10) Condensate Tanks	FL001	2015	400 (each)	BBL	6
TANKPW 001-002	FL001	Two (2) Produced Water Tanks	FL001	2015	400 (each)	BBL	6
EU-L001 and EU-L002	EP-L001 And EP-L002	Condensate and Produced Water Truck Loading	None	2015	6,132,000 and 73,584,000 respectively	gallons/ year	11, 14

Control Devices

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%	Abutec-200 Combustor (Controlling TANKCOND and TANKPW)	2015	18.4	MMBtu/hr	12, 14

Emission Reduction Systems	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
047-085-10178-00	047-085-10179-00	047-085-10180-00

3.0 Emission Limitations

Emission Unit ID	Emission Point ID	Emission Unit Description	Regulated Pollutant	Maximum Potential Emissions	
				Hourly (lb/hr)	Annual (tpy)
ENG001	EP-ENG001	Kubota DG972-E2 Compressor Engine	Nitrogen Oxides	0.32	1.39
			Carbon Monoxide	5.65	24.73
			Volatile Organic Compounds	0.01	0.03
TANKCOND 001-010 and TANKPW 001-002	FL001	AbuTec-200 Combustor (Controlling Condensate Tanks and Produced Water Tanks)	Nitrogen Oxides	0.62	2.70
			Carbon Dioxide	0.52	2.27
			Volatile Organic Compounds	7.15	31.32
			PM_{10}	0.06	0.21
			n-Hexane	0.20	0.84
EU-H001 Through EU-H010	EP-H001 Through EP-H010	GPU Heaters	Nitrogen Oxides	1.21	5.27
			Carbon Monoxide	1.01	4.43

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	6,132,000 gallons/year
EU-L002	EP-L002	Produced Water Truck Loading	73,584,000 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