

*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-A042A

Issued to:

**Antero Resources Corporation
Chestnut Well Pad
017-00098**

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

*William F. Durham
Director*

Issued: December 5, 2014 • Effective: December 5, 2014

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Facility Location: Shirley, Doddridge County, West Virginia
Mailing Address: 1625 17th Street, Denver, CO 80202
Facility Description: Natural Gas Production
NAICS Code: 211111
SIC Code: 1311
UTM Coordinates: 524.020 km Easting • 4,357.130 km Northing • Zone 17
Longitude Coordinates: -80.7212
Latitude Coordinates: 39.3616
Directions to Facility: *At the intersection of C/R 6/2 and WV-23E, continue to WV-23E for 2.2 miles. Turn left to C/R 3 / Big Flint Road and go for 3.5 miles. Entrance to the facility is on the left.*
Registration Type: Class II Administrative Update
Description of Change: Administrative Update to remove VRU engine and to replace sales gas compressor with a smaller unit.

Subject to 40CFR60, Subpart OOOO? Yes

Subject to 40CFR60, Subpart JJJJ? Yes

Subject to 40CFR63, Subpart ZZZZ? Yes, ZZZZ Req's

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 | EP-H001 | Heater Treater | -- | 2014 | 1.5 | mmBtu/hr | 7 |
| H002 | EP-H002 | Heater Treater | -- | 2014 | 1.5 | mmBtu/hr | 7 |
| H003 | EP-H003 | Heater Treater | -- | 2014 | 1.5 | mmBtu/hr | 7 |
| H004 | EP-H004 | Heater Treater | -- | 2014 | 1.5 | mmBtu/hr | 7 |
| H005 | EP-H005 | Heater Treater | -- | 2014 | 1.5 | mmBtu/hr | 7 |
| TANK001 | FL-001 | Cond./Water Tank | FL-001 | 2014 | 400 | Bbl | 6 & 14 |
| TANK002 | FL-001 | Cond./Water Tank | FL-001 | 2014 | 400 | Bbl | 6 & 14 |
| TANK003 | FL-001 | Cond./Water Tank | FL-001 | 2014 | 400 | Bbl | 6 & 14 |
| TANK004 | FL-001 | Cond./Water Tank | FL-001 | 2014 | 400 | Bbl | 6 & 14 |
| TANK005 | FL-001 | Cond./Water Tank | FL-001 | 2014 | 400 | Bbl | 6 & 14 |
| TANK006 | FL-001 | Cond./Water Tank | FL-001 | 2014 | 400 | Bbl | 6 & 14 |
| ENG001 | EP-ENG001 | Kubota DG972-E2 Compressor | -- | 2014 | 23.6 | Hp | 10,13,15 |
| L001 | EP-L001 | Cond./Water Loading | N/A | 2014 | 1,149,750 | Gal/year | 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 | Cimmaron Model 48" HV ECD Flare | 2014 | 90 | Scfm | 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 |
|------------------|------------------|------------|
| 047-017-06274-00 | 047-017-06400-00 | |
| 047-017-06397-00 | | |
| 047-017-06398-00 | | |
| 047-017-06399-00 | | |

3.0 Emission Limitations

| Emission Unit ID | Emission Point ID | Emission Unit Description | Regulated Pollutant | Maximum Potential Emissions | |
|------------------|-------------------|----------------------------------------|----------------------------|-----------------------------|--------------|
| | | | | Hourly (lb/hr) | Annual (tpy) |
| H001-H005 | EP-H001-H05 | (5) 1.5mmBtu/hr GPU Heaters | Nitrogen Oxides | 0.60 | 2.63 |
| | | | Carbon Monoxide | 0.51 | 2.21 |
| TANK001-006 | FL-001 | (6) 400 BBL Cond./Produced Water Tanks | Volatile Organic Compounds | 0.76 | 3.32 |
| | | | Total HAPs | 0.02 | 0.11 |
| 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 | Cond./Prod. Water Truck Loading | Volatile Organic Compounds | 1.26 | 0.94 |
| | | | Total HAPs | -- | -- |

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 | 1,149,750 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 | No |