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Alex Bosiljevac
Environmental Coordinator

September 1, 2015

CERTIFIED MAIL # 7015 0640 0000 9694 4175

Mr. William F. Durham, Director
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, West Virginia, 25304

**RE: Class II Administrative Update
EQT Production Company
BIG57-176 Meter Site**

Dear Mr. Durham,

Enclosed are two electronic copies and one original hard copy of a proposed class II administrative update to the R-13-2999 Permit for the BIG57-176 Meter Site. A legal advertisement will be published in the next few days and proof of publication will be forwarded as soon as it is received. Please contact me for payment of the application fee by credit card.

If you have any questions concerning this permit application, please contact me at (412) 395-3699 or by email at abosiljevac@eqt.com.

Sincerely,

A handwritten signature in blue ink, appearing to read 'RAB' followed by a large, stylized flourish.

Alex Bosiljevac
EQT Corporation

Enclosures



PROJECT REPORT
EQT Production
BIG 57-176 Meter Site

Class II Administrative Update

R13-2999

TRINITY CONSULTANTS
4500 Brooktree Drive
Suite 103
Wexford, PA 15090
(724) 935-2611

August 2015



Environmental solutions delivered uncommonly well

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1. INTRODUCTION

EQT Production Company (EQT) is submitting this Class II Administrative Update to the West Virginia Department of Environmental Protection (WVDEP) for a natural gas meter site located in Wetzel County, West Virginia (BIG 57-176 Meter Site). Specifically, this application seeks to remove the combustor (C001) associated with the dehydration unit located at the site (permitted under Permit No. R13-2999).

1.1. FACILITY AND PROJECT DESCRIPTION

The BIG 57-176 Meter Site is a natural gas interconnect metering facility. The station dehydrates natural gas from nearby wells for transportation across the pipeline:

The BIG 57-176 Meter site currently consists of the following equipment:

- > One (1) 38 million standard cubic feet per day (MMscfd) triethylene glycol dehydrator with associated reboiler (0.31 MMbtu/hr duty [input] rating) and vapor destruction unit.

As part of this application, EQT is seeking to remove the combustor associated with the dehydration unit. The facility will continue to remain a minor source of hazardous air pollutants and criteria pollutants, and will continue to comply with all applicable Federal and State Regulations.

A process flow diagram is included as Attachment F.

1.2. SOURCE STATUS

WVDEP must make stationary source determinations on a case-by-case basis using the guidance under the Clean Air Act (CAA) and EPA's and WVDEP's implementing regulations. The definition of stationary source in 40 CFR 51.166(b) includes the following:

“(6) Building, structure, facility, or installation means all of the pollutant emitting activities which belong to the same industrial grouping, are located on or more contiguous or adjacent properties, and are under control of the same person (or persons under common control).”

Other additional pollutant emitting facilities should be aggregated with the proposed BIG 57-176 Meter Site for air permitting purposes if and only if all three elements of the “stationary source” definition above are fulfilled. BIG 57-176 is a separate stationary source when the current R-13 permit was issued. The existing dehydrator at the station will process gas from both the BIG-57 wellpad and BIG-176 wellpad. However, these wellpads are separated from the meter station by approximately 0.9 and 0.8 miles respectively, and should not be considered contiguous or adjacent. Therefore, the BIG 57-176 Meter Site should be considered a separate stationary source with respect to permitting programs, including Title V and Prevention of Significant Deterioration (PSD). As discussed in this application, the facility is a minor source of air emissions with respect to New Source Review (NSR) and Title V permitting. Refer to Attachment D for detailed discussion regarding applicable requirements and compliance demonstration methodology.

1.3. R-13 APPLICATION ORGANIZATION

This West Virginia Code of State Regulations, Title 45 (CSR) Series 13 (45 CSR 13) R-13 permit application is organized as follows:

- > Section 2: Sample Emission Source Calculations;
- > Section 3: R-13 and Permission to Commence Construction Application Forms;
- > Attachment A: Business Certificate;
- > Attachment B: Map;

- > Attachment C: Installation and Start Up Schedule;
- > Attachment D: Regulatory Discussion;
- > Attachment E: Plot Plan;
- > Attachment F: Detailed Process Flow Diagram;
- > Attachment G: Process Description;
- > Attachment I: Emission Units Table;
- > Attachment J: Emission Points Data Summary Sheet;
- > Attachment K: Fugitive Emissions Data Summary Sheet;
- > Attachment L: Emissions Unit Data Sheets;
- > Attachment N: Supporting Emission Calculations;
- > Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans
- > Attachment P: Legal Ad

2. SAMPLE EMISSION SOURCE CALCULATIONS

The characteristics of air emissions from the natural gas processing operations, along with the methodology for calculating emissions, are briefly described in this section of the application. Detailed emission calculations are presented in Appendix N of this application.

Emissions from the proposed project will result from natural gas combustion in the reboiler and also process emission from the TEG dehydration unit, as well as fugitive emissions from component leaks. The methods by which emissions from the tanks are calculated are summarized below.

TEG Dehydration Unit: Potential emissions of hazardous air pollutants (HAPs), volatile organic compounds (VOC), and methane from the dehydration unit are calculated using GRI-GLYCalc and a site-specific gas analysis.

Reboiler: Potential emissions of all criteria pollutants and HAPs are calculated using U.S. EPA's AP-42 factors for natural gas external combustion equipment.¹ These calculations assume a site-specific heat content of natural gas. Greenhouse gas (GHG) emissions are calculated according to 40 CFR 98 Subpart C.²

¹ U.S. EPA, AP 42, Fifth Edition, Volume I, Chapter 1.4, Natural Gas Combustion, Supplement D, July 1998.

² 40 CFR 98 Subpart C, *General Stationary Fuel combustion Sources*, Tables C-1 and C-2.

3. R-13 APPLICATION FORMS

The WVDEP permit application forms contained in this application include all applicable R-13 application forms including the required attachments.



WEST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

**APPLICATION FOR NSR PERMIT
AND
TITLE V PERMIT REVISION
(OPTIONAL)**

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

- ☐ CONSTRUCTION ☐ MODIFICATION ☐ RELOCATION
☐ CLASS I ADMINISTRATIVE UPDATE ☐ TEMPORARY
☒ CLASS II ADMINISTRATIVE UPDATE ☐ AFTER-THE-FACT

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

- ☐ ADMINISTRATIVE AMENDMENT ☐ MINOR MODIFICATION
☐ SIGNIFICANT MODIFICATION

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant (as registered with the WV Secretary of State's Office): EQT Production		2. Federal Employer ID No. (FEIN): 25-0724685	
3. Name of facility (if different from above): BIG 57-176 Meter Site		4. The applicant is the: <input type="checkbox"/> OWNER <input type="checkbox"/> OPERATOR <input checked="" type="checkbox"/> BOTH	
5A. Applicant's mailing address: 625 Liberty Avenue, Suite 1700 Pittsburgh, PA 15222		5B. Facility's present physical address: Shuman Hill Road, WV	
6. West Virginia Business Registration. Is the applicant a resident of the State of West Virginia? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO – If YES , provide a copy of the Certificate of Incorporation/Organization/Limited Partnership (one page) including any name change amendments or other Business Registration Certificate as Attachment A . – If NO , provide a copy of the Certificate of Authority/Authority of L.L.C./Registration (one page) including any name change amendments or other Business Certificate as Attachment A .			
7. If applicant is a subsidiary corporation, please provide the name of parent corporation: EQT Corporation			
8. Does the applicant own, lease, have an option to buy or otherwise have control of the <i>proposed site</i> ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO – If YES , please explain: Applicant owns the site – If NO , you are not eligible for a permit for this source.			
9. Type of plant or facility (stationary source) to be constructed, modified, relocated, administratively updated or temporarily permitted (e.g., coal preparation plant, primary crusher, etc.): Natural Gas Production Wellsite		10. North American Industry Classification System (NAICS) code for the facility: 213111	
11A. DAQ Plant ID No. (for existing facilities only): 103-00052	11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only): R13-2999		

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide Material Safety Data Sheets (MSDS) for all materials processed, used or produced as Attachment H . – For chemical processes, provide a MSDS for each compound emitted to the air.												
25. Fill out the Emission Units Table and provide it as Attachment I .												
26. Fill out the Emission Points Data Summary Sheet (Table 1 and Table 2) and provide it as Attachment J .												
27. Fill out the Fugitive Emissions Data Summary Sheet and provide it as Attachment K .												
28. Check all applicable Emissions Unit Data Sheets listed below: <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Bulk Liquid Transfer Operations</td> <td><input type="checkbox"/> Haul Road Emissions</td> <td><input type="checkbox"/> Quarry</td> </tr> <tr> <td><input type="checkbox"/> Chemical Processes</td> <td><input type="checkbox"/> Hot Mix Asphalt Plant</td> <td><input type="checkbox"/> Solid Materials Sizing, Handling and Storage Facilities</td> </tr> <tr> <td><input type="checkbox"/> Concrete Batch Plant</td> <td><input type="checkbox"/> Incinerator</td> <td><input type="checkbox"/> Storage Tanks</td> </tr> <tr> <td><input type="checkbox"/> Grey Iron and Steel Foundry</td> <td><input type="checkbox"/> Indirect Heat Exchanger</td> <td></td> </tr> </table> <input checked="" type="checkbox"/> General Emission Unit, specify: Dehydration Unit and Reboiler	<input type="checkbox"/> Bulk Liquid Transfer Operations	<input type="checkbox"/> Haul Road Emissions	<input type="checkbox"/> Quarry	<input type="checkbox"/> Chemical Processes	<input type="checkbox"/> Hot Mix Asphalt Plant	<input type="checkbox"/> Solid Materials Sizing, Handling and Storage Facilities	<input type="checkbox"/> Concrete Batch Plant	<input type="checkbox"/> Incinerator	<input type="checkbox"/> Storage Tanks	<input type="checkbox"/> Grey Iron and Steel Foundry	<input type="checkbox"/> Indirect Heat Exchanger	
<input type="checkbox"/> Bulk Liquid Transfer Operations	<input type="checkbox"/> Haul Road Emissions	<input type="checkbox"/> Quarry										
<input type="checkbox"/> Chemical Processes	<input type="checkbox"/> Hot Mix Asphalt Plant	<input type="checkbox"/> Solid Materials Sizing, Handling and Storage Facilities										
<input type="checkbox"/> Concrete Batch Plant	<input type="checkbox"/> Incinerator	<input type="checkbox"/> Storage Tanks										
<input type="checkbox"/> Grey Iron and Steel Foundry	<input type="checkbox"/> Indirect Heat Exchanger											
Fill out and provide the Emissions Unit Data Sheet(s) as Attachment L .												
29. Check all applicable Air Pollution Control Device Sheets listed below: <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Absorption Systems</td> <td><input type="checkbox"/> Baghouse</td> <td><input type="checkbox"/> Flare</td> </tr> <tr> <td><input type="checkbox"/> Adsorption Systems</td> <td><input type="checkbox"/> Condenser</td> <td><input type="checkbox"/> Mechanical Collector</td> </tr> <tr> <td><input type="checkbox"/> Afterburner</td> <td><input type="checkbox"/> Electrostatic Precipitator</td> <td><input type="checkbox"/> Wet Collecting System</td> </tr> </table> <input type="checkbox"/> Other Collectors, specify	<input type="checkbox"/> Absorption Systems	<input type="checkbox"/> Baghouse	<input type="checkbox"/> Flare	<input type="checkbox"/> Adsorption Systems	<input type="checkbox"/> Condenser	<input type="checkbox"/> Mechanical Collector	<input type="checkbox"/> Afterburner	<input type="checkbox"/> Electrostatic Precipitator	<input type="checkbox"/> Wet Collecting System			
<input type="checkbox"/> Absorption Systems	<input type="checkbox"/> Baghouse	<input type="checkbox"/> Flare										
<input type="checkbox"/> Adsorption Systems	<input type="checkbox"/> Condenser	<input type="checkbox"/> Mechanical Collector										
<input type="checkbox"/> Afterburner	<input type="checkbox"/> Electrostatic Precipitator	<input type="checkbox"/> Wet Collecting System										
Fill out and provide the Air Pollution Control Device Sheet(s) as Attachment M .												
30. Provide all Supporting Emissions Calculations as Attachment N , or attach the calculations directly to the forms listed in Items 28 through 31.												
31. Monitoring, Recordkeeping, Reporting and Testing Plans. Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as Attachment O . ➤ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.												
32. Public Notice. At the time that the application is submitted, place a Class I Legal Advertisement in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and Example Legal Advertisement for details). Please submit the Affidavit of Publication as Attachment P immediately upon receipt.												
33. Business Confidentiality Claims. Does this application include confidential information (per 45CSR31)? <div style="text-align: center;"> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO </div> ➤ If YES , identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's "Precautionary Notice – Claims of Confidentiality" guidance found in the General Instructions as Attachment Q .												

Section III. Certification of Information

34. Authority/Delegation of Authority. Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

- | | |
|--|---|
| <input type="checkbox"/> Authority of Corporation or Other Business Entity | <input type="checkbox"/> Authority of Partnership |
| <input type="checkbox"/> Authority of Governmental Agency | <input type="checkbox"/> Authority of Limited Partnership |

Submit completed and signed **Authority Form** as **Attachment R**.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. Certification of Information. To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ☒ **Responsible Official** / ☐ **Authorized Representative**, hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE 
(Please use blue ink)

DATE: 09/01/15
(Please use blue ink)

35B. Printed name of signer: Kenneth Kirk

35C. Title: Executive Vice President

35D. E-mail: kirk@eqt.com

36E. Phone:

36F. FAX:

36A. Printed name of contact person (if different from above): Alex Bosiljevac

36B. Title: Environmental Coordinator

36C. E-mail: abosiljevac@eqt.com

36D. Phone: 412-395-3699

36E. FAX:

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Attachment A: Business Certificate | <input checked="" type="checkbox"/> Attachment K: Fugitive Emissions Data Summary Sheet |
| <input checked="" type="checkbox"/> Attachment B: Map(s) | <input checked="" type="checkbox"/> Attachment L: Emissions Unit Data Sheet(s) |
| <input checked="" type="checkbox"/> Attachment C: Installation and Start Up Schedule | <input type="checkbox"/> Attachment M: Air Pollution Control Device Sheet(s) |
| <input checked="" type="checkbox"/> Attachment D: Regulatory Discussion | <input checked="" type="checkbox"/> Attachment N: Supporting Emissions Calculations |
| <input checked="" type="checkbox"/> Attachment E: Plot Plan | <input checked="" type="checkbox"/> Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans |
| <input checked="" type="checkbox"/> Attachment F: Detailed Process Flow Diagram(s) | <input checked="" type="checkbox"/> Attachment P: Public Notice |
| <input checked="" type="checkbox"/> Attachment G: Process Description | <input type="checkbox"/> Attachment Q: Business Confidential Claims |
| <input type="checkbox"/> Attachment H: Material Safety Data Sheets (MSDS) | <input type="checkbox"/> Attachment R: Authority Forms |
| <input checked="" type="checkbox"/> Attachment I: Emission Units Table | <input type="checkbox"/> Attachment S: Title V Permit Revision Information |
| <input checked="" type="checkbox"/> Attachment J: Emission Points Data Summary Sheet | <input checked="" type="checkbox"/> Application Fee |

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ *Forward 1 copy of the application to the Title V Permitting Group and:*
- ☐ *For Title V Administrative Amendments:*
 - ☐ *NSR permit writer should notify Title V permit writer of draft permit,*
- ☐ *For Title V Minor Modifications:*
 - ☐ *Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,*
 - ☐ *NSR permit writer should notify Title V permit writer of draft permit.*
- ☐ *For Title V Significant Modifications processed in parallel with NSR Permit revision:*
 - ☐ *NSR permit writer should notify a Title V permit writer of draft permit,*
 - ☐ *Public notice should reference both 45CSR13 and Title V permits,*
 - ☐ *EPA has 45 day review period of a draft permit.*

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

ATTACHMENT A

Business Certificate

**WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION
CERTIFICATE**

ISSUED TO:
**EQT PRODUCTION COMPANY
625 LIBERTY AVE 1700
PITTSBURGH, PA 15222-3114**

BUSINESS REGISTRATION ACCOUNT NUMBER: 1022-8081

This certificate is issued on: 08/4/2010

*This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code*

*The person or organization identified on this certificate is registered
to conduct business in the State of West Virginia at the location above.*

This certificate is not transferrable and must be displayed at the location for which issued.
This certificate shall be permanent until cessation of the business for which the certificate of registration
was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new
certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of
this certificate displayed at every job site within West Virginia.

ATTACHMENT B

Map

ATTACHMENT B: AREA MAP

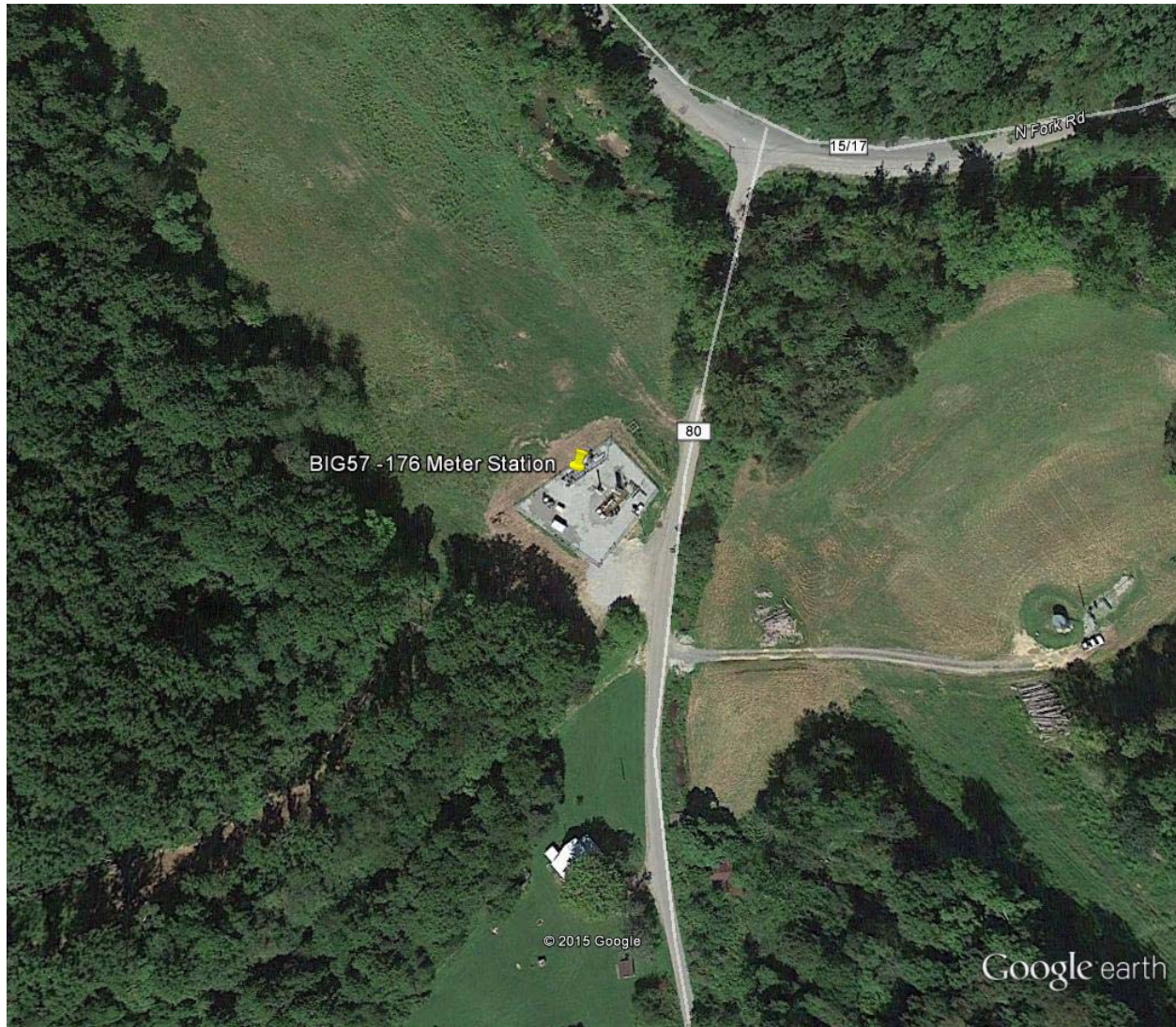


Figure 1 - Map of BIG 57-176 Location

UTM Northing (KM): 4,378.272
UTM Easting (KM): 539.070
Elevation: ~895 ft

ATTACHMENT C

Installation and Start Up Schedule

ATTACHMENT C

Schedule of Planned Installation and Start-Up

There are no installation associated with this project. Removal will occur upon permit issuance.

ATTACHMENT D

Regulatory Discussion

ATTACHMENT D - REGULATORY APPLICABILITY

This section documents the applicability determinations made for Federal and State air quality regulations. The monitoring, recordkeeping, reporting, and testing plan is presented in Attachment O. In this section, applicability or non-applicability of the following regulatory programs is addressed:

- > Prevention of Significant Deterioration (PSD) permitting;
- > Title V of the 1990 Clean Air Act Amendments;
- > New Source Performance Standards (NSPS);
- > National Emission Standards for Hazardous Air Pollutants (NESHAP); and
- > West Virginia State Implementation Plan (SIP) regulations.

This review is presented to supplement and/or add clarification to the information provided in the WVDEP R13 permit application forms, which fulfill the requirement to include citations and descriptions of applicable statutory and administrative code requirements.

In addition to providing a summary of applicable requirements, this section of the application also provides non-applicability determinations for certain regulations, allowing the WVDEP to confirm that identified regulations are not applicable to the meter site. Note that explanations of non-applicability are limited to those regulations for which there may be some question of applicability specific to the operations at the meter site. Regulations that are categorically non-applicable are not discussed (e.g., NSPS Subpart J, Standards of Performance for Petroleum Refineries).

Prevention of Significant Deterioration (PSD) Source Classification

Federal construction permitting programs regulate new and modified sources of attainment pollutants under Prevention of Significant Deterioration (PSD) and new and modified sources of non-attainment pollutants under Non-Attainment New Source Review (NNSR). PSD and NNSR regulations apply when a major source makes a change, such as installing new equipment or modifying existing equipment, and a significant increase in emissions results from the change. The meter site will remain a minor source with respect to the NSR program after the project since potential emissions are below all the NNSR/PSD thresholds. As such, NNSR/PSD permitting is not triggered by this construction activity. EQT will monitor future construction activities at the site closely and will compare any future increase in emissions with the NSR/PSD thresholds to ensure these activities will not trigger this program.

Title V Operating Permit Program

Title 40 of the Code of Federal Regulations Part 70 (40 CFR 70) establishes the federal Title V operating permit program. West Virginia has incorporated the provisions of this federal program in its Title V operating permit program in West Virginia Code of State Regulations (CSR) 45-30. The major source thresholds with respect to the West Virginia Title V operating permit program regulations are 10 tons per year (tpy) of a single HAP, 25 tpy of any combination of HAP, and 100 tpy of all other regulated pollutants.¹ The potential emissions of all regulated pollutants are below the corresponding threshold(s) at this facility after the proposed project. Therefore, the meter site is not a major source for Title V purposes.

¹ On June 23, 2014, the U.S Supreme Court decision in the case of *Utility Air Regulatory Group v. EPA* effectively changed the permitting procedures for GHGs under the PSD and Title V programs.

New Source Performance Standards

New Source Performance Standards (NSPS), located in 40 CFR 60, require new, modified, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. Moreover, any source subject to an NSPS is also subject to the general provisions of NSPS Subpart A, except where expressly noted. The following is a summary of applicability and non-applicability determinations for NSPS regulations of relevance to the meter site.

NSPS Subpart 0000—Crude Oil and Natural Gas Production, Transmission, and Distribution

Subpart 0000 – *Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution*, applies to affected facilities that commenced construction, reconstruction, or modification after August 23, 2011. This NSPS was published in the Federal Register on August 16, 2012, and subsequently amended. The list of potentially affected facilities includes:

- > Gas wells
- > Centrifugal compressors
- > Reciprocating compressors
- > Pneumatic controllers
- > Storage vessels
- > Equipment (as defined in §60.5430) located at onshore natural gas processing plants
- > Sweetening units located onshore that process natural gas produced from either onshore or offshore wells

The BIG57-156 Meter site does not include any gas wells, compressor engines, pneumatic controllers, or storage vessels. Therefore, the facility is not subject to this regulation.

EQT is not proposing any continuous bleed natural gas driven pneumatic controllers as part of this application.

Non-Applicability of All Other NSPS

NSPS are developed for particular industrial source categories. Other than NSPS developed for natural gas processing plants (Subpart 0000) and the applicability of a particular NSPS to the meter site can be readily ascertained based on the industrial source category covered. All other NSPS are categorically not applicable to the proposed project.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

Part 63 NESHAP allowable emission limits are established on the basis of a maximum achievable control technology (MACT) determination for a particular major source. A HAP major source is defined as having potential emissions in excess of 25 tpy for total HAP and/or potential emissions in excess of 10 tpy for any individual HAP. The meter site is an Area (minor) source of HAP since its potential emissions of HAP are less than the 10/25 major source thresholds. NESHAP apply to sources in specifically regulated industrial source categories (Clean Air Act Section 112(d)) or on a case-by-case basis (Section 112(g)) for facilities not regulated as a specific industrial source type. Besides 40 CFR 63 Subpart A (NESHAP Subpart A), which is similar to 40 CFR 60 Subpart A (NSPS Subpart A), the following NESHAP could potentially apply to the meter site:

- > 40 CFR Part 63 Subpart HH – Oil and Natural Gas Production Facilities
- > 40 CFR Part 63 Subpart JJJJJ – Industrial, Commercial, and Institutional Boilers

NESHAP Subpart HH — Oil and Natural Gas Production Facilities

Part 63 NESHAP allowable emission limits are established on the basis of a maximum achievable control technology (MACT) determination for a particular major source. A HAP major source is defined as having potential emissions in excess of 25 tpy for total HAP and/or potential emissions in excess of 10 tpy for any individual HAP. The meter site is

an Area (minor) source of HAP since its potential emissions of HAP are less than the 10/25 major source thresholds. The dehydration unit will continue to emit less than 0.90 megagrams of benzene per year; therefore the exemption found in §63.764(e)(1)(ii) applies. EQT will maintain the applicable records as required in §63.774(d)(1).

NESHAP Subpart JJJJJ - Industrial, Commercial, and Institutional Boilers

This MACT standard applies to industrial, commercial, and institutional boilers of various sizes and fuel types at area sources. The reboiler at the meter site is natural gas-fired and is specifically exempt from this subpart. Therefore, no sources at the meter site are subject to any requirements under this subpart.

West Virginia SIP Regulations

The meter site is potentially subject to regulations contained in the West Virginia Code of State Regulations, Chapter 45 (Code of State Regulations). The Code of State Regulations fall under two main categories, those regulations that are generally applicable (e.g., permitting requirements), and those that have specific applicability (e.g., PM standards for manufacturing equipment).

45 CSR 6: To Prevent and Control the Air Pollution from the Combustion of Refuse

With the removal of the combustor, this regulation is no longer applicable to the meter site.

45 CSR 16: Standards of Performance for New Stationary Sources

45 CSR 16-1 incorporates the federal Clean Air Act (CAA) standards of performance for new stationary sources set forth in 40 CFR Part 60 by reference. As such, by complying with all applicable requirements of 40 CFR Part 60 at the meter site, EQT will be complying with 45 CSR 16.

45 CSR 17: To Prevent and Control Particulate Matter Air Pollution from Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter

According to 45 CSR 17-3.1:

No person shall cause, suffer, allow or permit fugitive particulate matter to be discharged beyond the boundary lines of the property lines of the property on which the discharge originates or at any public or residential location, which causes or contributes to statutory air pollution.

Due to the nature of the activities at the meter site, it is unlikely that fugitive particulate matter emissions will be emitted under normal operating conditions. However, EQT will take measures to ensure any fugitive particulate matter emissions will not cross the property boundary should any such emissions occur.

45 CSR 34: Emissions Standards for Hazardous Air Pollutants

45 CSR 34-1 incorporates the federal Clean Air Act (CAA) national emissions standards for hazardous air pollutants (NESHAPs) as set forth in 40 CFR Parts 61 and 63 by reference. As noted above, no NESHAP are applicable.

Non-Applicability of Other SIP Rules

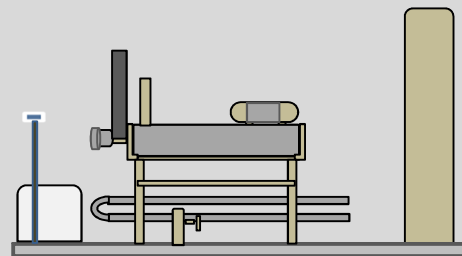
A thorough examination of the West Virginia SIP rules with respect to applicability at the meter site reveals many SIP regulations that do not apply or impose additional requirements on operations. Such SIP rules include those specific to a particular type of industrial operation that is categorically not applicable to the meter site.

ATTACHMENT E

Plot Plan

NOTE: This diagram is not to scale.
Locations and distances between
equipment are unknown at this time.

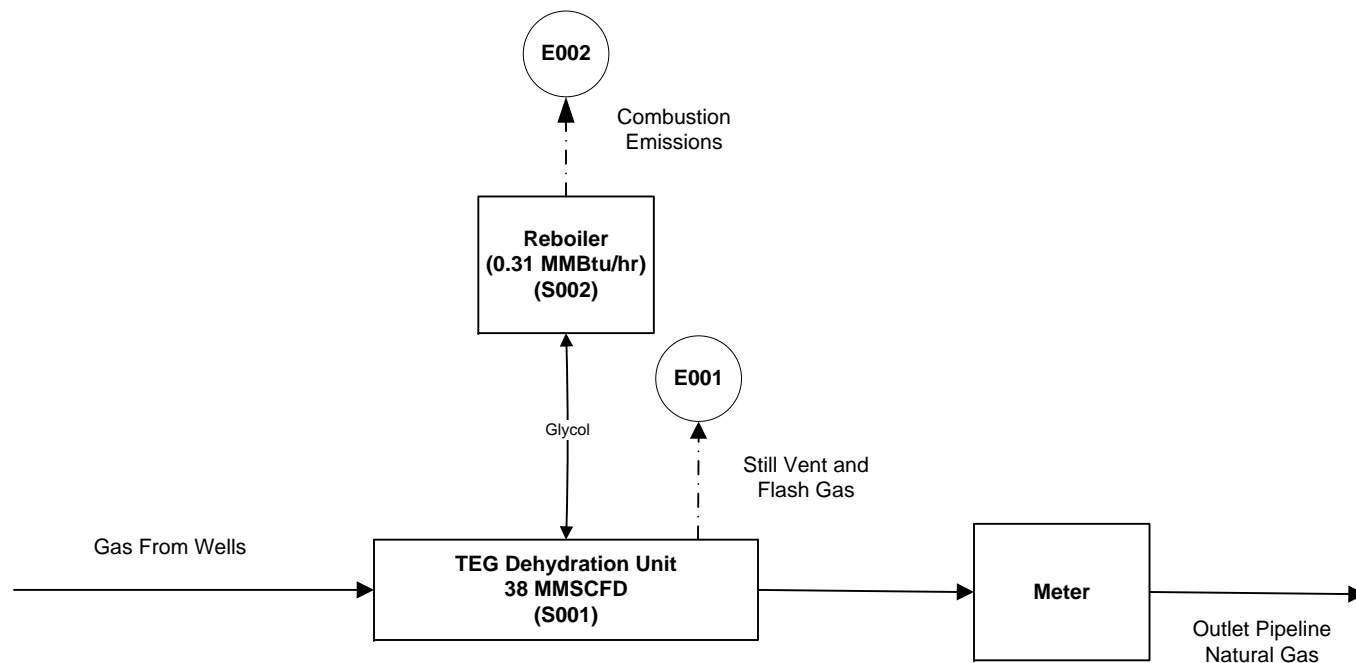
Entrance to BIG 57 -176



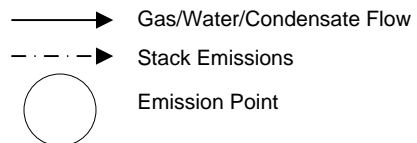
Tri-ethylene Glycol Dehy
(1)

ATTACHMENT F

Detailed Process Flow Diagram



Flow Legend



EQT Where energy meets innovation.

EQT Production

Process Flow Diagram

Big 57-176 Meter Station

Trinity
Consultants

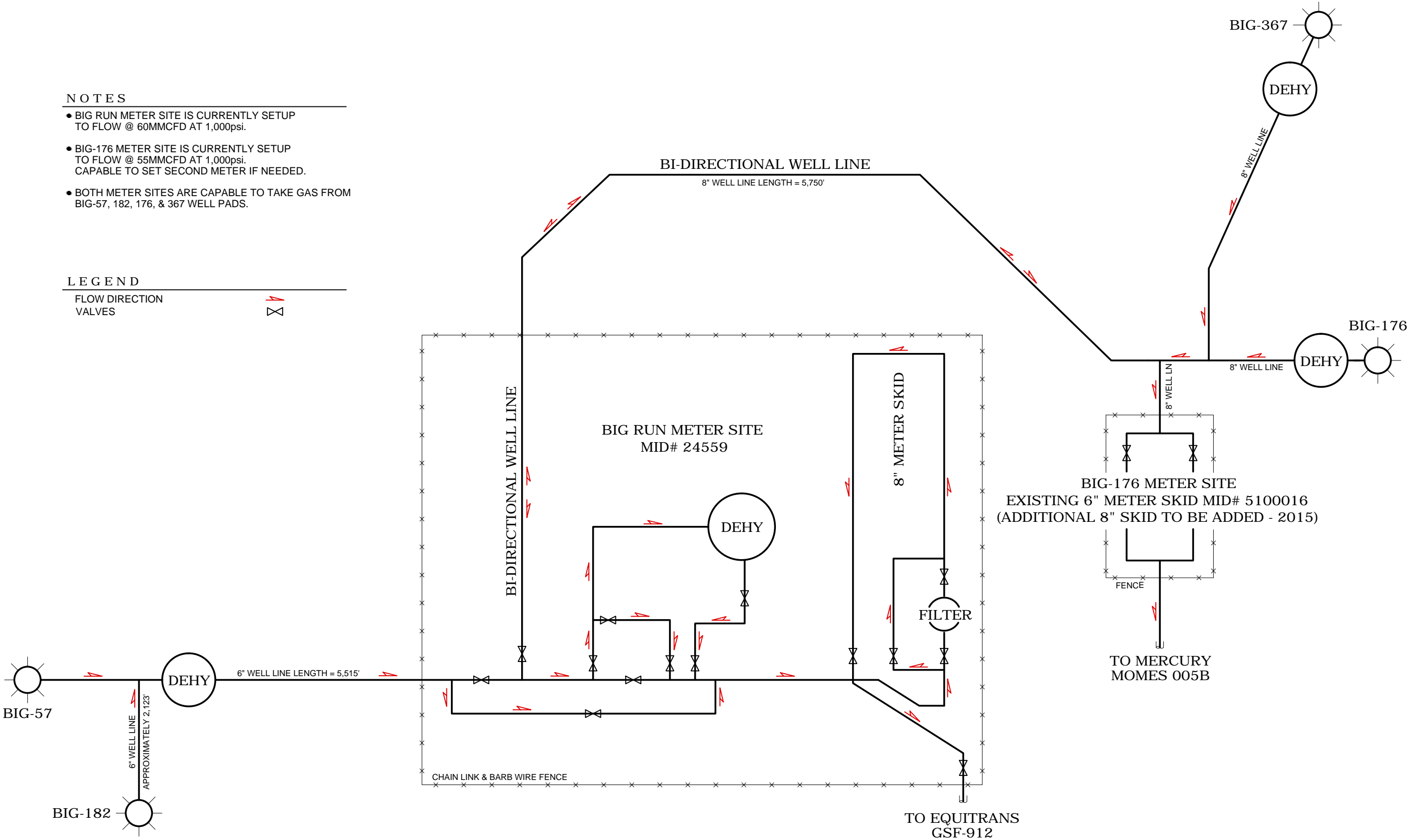
August 2015


NOTES

- BIG RUN METER SITE IS CURRENTLY SETUP TO FLOW @ 60MMCFD AT 1,000psi.
- BIG-176 METER SITE IS CURRENTLY SETUP TO FLOW @ 55MMCFD AT 1,000psi. CAPABLE TO SET SECOND METER IF NEEDED.
- BOTH METER SITES ARE CAPABLE TO TAKE GAS FROM BIG-57, 182, 176, & 367 WELL PADS.

LEGEND

FLOW DIRECTION
VALVES



ENGINEER'S SEAL	REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD	ENGINEERING APPROVAL	INITIALS	DATE		DRAWING TITLE: BIG-57, 182, 176, & 367 WELL LINES FLOW DIAGRAM					
	DRAWING NUMBER	DRAWING TITLE	1	3/5/15	ADD NEW DEHY LOCATIONS										DRAWN BY	MVS	11/11/13							
															CHECKED BY									
															APPROVED BY									
															CUST. APP. BY									
																		PRODUCTION WELL LINE CONSTRUCTION						
															DRAWING SCALE:									
															NTS									
																		WELL LOCATION STATE DRAWING NUMBER SERIES SHEET REVISION						
																	WETZEL WV 57, 182, 176, 367 WELL LNS FLOW DIAGRAM 1 1 OF 1 0							

ATTACHMENT G

Process Description

ATTACHMENT G: PROCESS DESCRIPTION

EQT is proposing remove the vapor destruction unit (VDU) currently attached to the existing dehydration unit (38 MMSCFD) at the site.

The BIG 57-176 Interconnect meter station dehydrates natural gas from nearby production wells prior to transmission along the pipeline system. The incoming gas stream from underground wells passes through the triethylene glycol (TEG) dehydration unit which will introduce TEG to the gas stream in a contact tower to absorb water vapor from the gas to a level not exceeding 7 pounds per million standard cubic feet (lb/MMscf). The TEG is then sent to the natural gas-fired reboiler. The water is evaporated from the TEG in the reboiler and discharged, and the glycol is then sent back to the contact tower for reuse. The natural gas stream from the contact tower flows into the pipeline to be transported further along the pipeline system.

A process flow diagram is included as Attachment F.

ATTACHMENT I

Emission Units Table

Attachment I
Emission Units Table
(includes all emission units and air pollution control devices
that will be part of this permit application review, regardless of permitting status)

Emission Unit ID ¹	Emission Point ID ²	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type ³ and Date of Change	Control Device ⁴
S001	E001	Glycol Dehydration Unit	2012	38 MMscfd	Existing, No Change	None
S002	E002	Glycol Dehydration Unit Reboiler	2012	0.31 MMBtu/hr input	Existing, No Change	None
C001	C001	Combustor	2012	4 MMBtu/hr	Existing – To be Removed	None

¹ For Emission Units (or Sources) use the following numbering system: 1S, 2S, 3S,... or other appropriate designation.

² For Emission Points use the following numbering system: 1E, 2E, 3E, ... or other appropriate designation.

³ New, modification, removal

⁴ For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

ATTACHMENT J

Emission Points Data Summary Sheet

Attachment J

EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data															
Emission Point ID No. <i>(Must match Emission Units Table & Plot Plan)</i>	Emission Point Type ¹	Emission Unit Vented Through This Point <i>(Must match Emission Units Table & Plot Plan)</i>		Air Pollution Control Device <i>(Must match Emission Units Table & Plot Plan)</i>		Vent Time for Emission Unit <i>(chemical processes only)</i>		All Regulated Pollutants - Chemical Name/CAS ³ <i>(Speciate VOCs & HAPS)</i>	Maximum Potential Uncontrolled Emissions ⁴		Maximum Potential Controlled Emissions ⁵		Emission Form or Phase <i>(At exit conditions, Solid, Liquid or Gas/Vapor)</i>	Est. Method Used ⁶	Emission Concentration ⁷ (ppmv or mg/m ⁴)
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
S001	Upward Vertical stack	E001	Dehydrator	NA	NA	NA	NA	VOC HAP Benzene Ethylbenzene Toluene Xylenes n-Hexane	2.74 0.10 0.01 0.02 0.01 0.03 0.03	12.01 0.44 0.03 0.08 0.05 0.12 0.15	2.74 0.10 0.01 0.02 0.01 0.03 0.03	12.01 0.44 0.03 0.08 0.05 0.12 0.15	Gas/Vapor	O ^B	
S002	Upward Vertical stack	E002	Reboiler	NA	NA	NA	NA	NOx CO PM/PM10/PM2.5 SO2 VOC CO2e	0.03 0.02 <0.01 <0.01 <0.01 36	0.12 0.10 0.01 <0.01 <0.01 159	0.03 0.02 <0.01 <0.01 <0.01 36	0.12 0.10 0.01 <0.01 <0.01 159	Gas/Vapor	O ^{A,C}	

A – Emissions calculated using AP-42 Section 1.4

B – GLYCalc

C – Emissions calculated according to 40 CFR 98 Subpart C

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

¹ Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

² Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

³ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, all applicable Greenhouse Gases (including CO₂ and methane), etc. **DO NOT LIST** H₂, H₂O, N₂, O₂, and Noble Gases.

⁴ Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁵ Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁶ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

⁷ Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m³) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO₂, use units of ppmv (See 45CSR10).

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 2: Release Parameter Data								
Emission Point ID No. <i>(Must match Emission Units Table)</i>	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow ¹ (acfm) <i>at operating conditions</i>	Velocity (fps)	Ground Level <i>(Height above mean sea level)</i>	Stack Height ² <i>(Release height of emissions above ground level)</i>	Northing	Easting

¹ Give at operating conditions. Include inerts.
² Release height of emissions above ground level.

ATTACHMENT K

Fugitive Emissions Data Summary Sheet

Attachment K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS
1.) Will there be haul road activities? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (no change to existing) <input type="checkbox"/> If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.
2.) Will there be Storage Piles? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.
3.) Will there be Liquid Loading/Unloading Operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.
4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.
6.) Will there be General Clean-up VOC Operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
7.) Will there be any other activities that generate fugitive emissions? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.
If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants - Chemical Name/CAS ¹	Maximum Potential Uncontrolled Emissions ²		Maximum Potential Controlled Emissions ³		Est. Method Used ⁴
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads	NA	---	---	---	---	---
Unpaved Haul Roads	PM PM ₁₀ PM _{2.5}	---	---	---	---	---
Storage Pile Emissions	NA	---	---	---	---	---
Loading/Unloading Operations	NA	---	---	---	---	---
Wastewater Treatment Evaporation & Operations	NA	---	---	---	---	---
Equipment Leaks	VOC CO _{2e}	--- ---	1.20 133	--- ---	1.20 133	A
General Clean-up VOC Emissions	NA	---	---	---	---	---
Other	NA	---	---	---	---	---

A –Protocol for Equipment Leak Emission Estimates, EPA 453/R-95-017, Table 2-1, November 1995. 40 CFR 98 Subpart W.

¹ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, all applicable Greenhouse Gases (including CO₂ and methane), etc. DO NOT LIST H₂, H₂O, N₂, O₂, and Noble Gases.

² Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

³ Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁴ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

ATTACHMENT L

Emissions Unit Data Sheet

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Dehydration Unit and Reboiler-S001 and S002

1. Name or type and model of proposed affected source:

38 MMSCFD dehydration unit with 0.31 MMBtu/hr duty (Heat Input rated) reboiler

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

38 million standard cubic feet per day of natural gas

4. Name(s) and maximum amount of proposed material(s) produced per hour:

Does not produce a material – removes water from wet natural gas

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

External combustion of natural gas in reboiler

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

<p>6. Combustion Data (if applicable):</p> <p>(a) Type and amount in appropriate units of fuel(s) to be burned:</p> <p>Reboiler - Natural gas – 278 scf/hr, 2.44 MMscf/yr</p>									
<p>(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:</p> <p>Natural gas with negligible H₂S and ash content.</p>									
<p>(c) Theoretical combustion air requirement (ACF/unit of fuel):</p> <p>Unknown @ °F and psia.</p>									
<p>(d) Percent excess air: Unknown</p>									
<p>(e) Type and BTU/hr of burners and all other firing equipment planned to be used:</p> <p>Natural gas fired external combustion heater (reboiler) – 0.31 MMbtu/hr input rating</p>									
<p>(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:</p> <p>NA</p>									
<p>(g) Proposed maximum design heat input: (Reboiler) 0.31 × 10⁶ BTU/hr.</p>									
<p>7. Projected operating schedule:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Hours/Day</td> <td style="width: 10%;">24</td> <td style="width: 25%;">Days/Week</td> <td style="width: 10%;">7</td> <td style="width: 25%;">Weeks/Year</td> <td style="width: 10%;">52</td> </tr> </table>				Hours/Day	24	Days/Week	7	Weeks/Year	52
Hours/Day	24	Days/Week	7	Weeks/Year	52				

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:				
@	Unknown	°F and	psia	
a.	NO _x	0.03	lb/hr	reboiler grains/ACF
b.	SO ₂	<0.01	lb/hr	reboiler grains/ACF
c.	CO	0.02	lb/hr	reboiler grains/ACF
d.	PM ₁₀	<0.01	lb/hr	reboiler grains/ACF
e.	Hydrocarbons	28.91	lb/hr	dehy grains/ACF
f.	VOCs	2.74	lb/hr	dehy grains/ACF
g.	Pb		lb/hr	grains/ACF
h.	Specify other(s)			
	HAP	0.10	lb/hr	dehy grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

Throughput of wet natural gas.
Operating parameters of dehydration unit for GLYCalc
(temperature, pressure, glycol flow rate)

RECORDKEEPING

Annual average benzene emissions calculated with GLYCalc.

Maintain records of all potential to emit (PTE) HAP calculations for the entire affected facility

Maintain records of the times and duration of all periods which the pilot flame was absent

Maintain records of the visible emission opacity tests

REPORTING

None.

TESTING

Conduct a Method 22 opacity test for at least two hours on a quarterly basis

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

ATTACHMENT N

Supporting Emission Calculations

Company Name: EQT Production, LLC
 Facility Name: BIG 57-176 Meter Station
 Project Description: G-70A Permit Application

Site Wide Summary

Emission Source	Value	Units	Emission Unit ID(s)	Emission Point ID(s)	Control Device
Well(s)	0	per pad	---	---	---
Storage Tank(s)	0	per pad	---	---	None
Sand Separator Tank	0	per pad	---	---	None
Line Heater(s)	0	per pad	---	---	None
Thermoelectric Generator(s) (TEGs)	0	per pad	---	---	None
Dehydrator(s)	1	per pad	S001	E001	None
Reboiler(s)	1	per pad	S002	E002	---
Dehy Drip Tank	0	per pad	---	---	---
Tank Combustor(s)	0	per pad	---	---	---
Dehy Combustor(s)	0	per pad	---	---	---
Length of lease road	100	feet	---	---	---

Constituent	TEG Dehydrator Unit (tpy)	Reboiler (0.31 MMBtu/hr) (tpy)	Fugitive Components (tpy)	Haul Roads (tpy)	Total Emissions (tpy)
Criteria Pollutants					
NO _x	0	1.2E-01	---	---	0.12
CO	0	1.0E-01	---	---	0.10
PM Total	0	9.3E-03	---	1.0E-02	0.02
PM ₁₀ Total	0	9.3E-03	---	2.5E-03	0.01
PM _{2.5} Total	0	9.3E-03	---	2.5E-04	0.01
SO ₂	0	7.3E-04	---	---	7.3E-04
VOC	12.01	6.7E-03	1.20	---	13.21
Greenhouse Gases					
CO ₂	0.97	158.86	2.1E-02	---	160
CH ₄	93.32	3.0E-03	5.34	---	98.67
N ₂ O	0	3.0E-04	---	---	3.0E-04
CO ₂ e	2,334.09	159.02	133.46	---	2,627
Hazardous Air Pollutants					
Methylnaphthalene (2-)	---	2.9E-08	---	---	2.9E-08
Methylchloranthrene (3-)	---	2.2E-09	---	---	2.2E-09
Dimethylbenz(a)anthracene (7,12-)	---	1.9E-08	---	---	1.9E-08
Acenaphthene	---	2.2E-09	---	---	2.2E-09
Acenaphthylene	---	2.2E-09	---	---	2.2E-09
Anthracene	---	2.9E-09	---	---	2.9E-09
Benz(a)anthracene	---	2.2E-09	---	---	2.2E-09
Benzene	3.1E-02	2.6E-06	<0.001	---	3.1E-02
Benzo(a)pyrene	---	1.5E-09	---	---	1.5E-09
Benzo(b)fluoranthene	---	2.2E-09	---	---	2.2E-09
Benzo(g,h,i)perylene	---	1.5E-09	---	---	1.5E-09
Benzo(k)fluoranthene	---	2.2E-09	---	---	2.2E-09
Chrysene	---	2.2E-09	---	---	2.2E-09
Dibenzo(a,h)anthracene	---	1.5E-09	---	---	1.5E-09
Dichlorobenzene	---	1.5E-06	---	---	1.5E-06
Fluoranthene	---	3.7E-09	---	---	3.7E-09
Fluorene	---	3.4E-09	---	---	3.4E-09
Formaldehyde	---	9.1E-05	---	---	9.1E-05
Hexane, n-	1.5E-01	2.2E-03	3.8E-03	---	1.6E-01
Indeno(1,2,3-cd)pyrene	---	2.2E-09	---	---	2.2E-09
Naphthalene	---	7.4E-07	---	---	7.4E-07
Phenanthrene	---	2.1E-08	---	---	2.1E-08
Pyrene	---	6.1E-09	---	---	6.1E-09
Toluene	5.4E-02	4.1E-06	<0.001	---	5.4E-02
Arsenic	---	2.4E-07	---	---	2.4E-07
Beryllium	---	1.5E-08	---	---	1.5E-08
Cadmium	---	1.3E-06	---	---	1.3E-06
Chromium	---	1.7E-06	---	---	1.7E-06
Cobalt	---	1.0E-07	---	---	1.0E-07
Manganese	---	4.6E-07	---	---	4.6E-07
Mercury	---	3.2E-07	---	---	3.2E-07
Nickel	---	2.6E-06	---	---	2.6E-06
Selenium	---	2.9E-08	---	---	2.9E-08
Ethylbenzene	8.2E-02	---	<0.001	---	8.2E-02
Trimethylpentane (2,2,4-)	1.0E-03	---	<0.001	---	1.0E-03
Xylene	1.2E-01	---	<0.001	---	1.2E-01
Total HAP	0.44	2.3E-03	3.8E-03	---	0.44

Company Name: EOT Production, LLC
Facility Name: BIG 57-176 Meter Station
Project Description: G-70A Permit Application

Triethylene Glycol Dehydrator

GRI-GLYCalc Version 4.0 - EMISSIONS SUMMARY			
Uncontrolled Regenerator Emissions			
Pollutant	(lbs/hr)	(lbs/day)	(tons/yr)
Carbon Dioxide	0.04	0.85	0.16
Methane	0.2181	5.236	0.9555
Ethane	0.1940	4.656	0.8497
Propane	0.1437	3.450	0.6296
Isobutane	0.0460	1.103	0.2013
n-Butane	0.0815	1.956	0.3569
Isopentane	0.0306	0.734	0.1339
n-Pentane	0.0244	0.586	0.1070
Cyclopentane	0.0089	0.214	0.0390
n-Hexane*	0.0161	0.385	0.0703
Cyclohexane	0.0006	0.014	0.0025
Other Hexanes	0.0325	0.780	0.1424
Heptanes	0.0813	1.951	0.3561
2,2,4-Trimethylpentane*	0.0001	0.003	0.0005
Benzene*	0.0068	0.164	0.0300
Toluene*	0.0122	0.294	0.0536
Ethylbenzene*	0.0186	0.446	0.0814
Xylene	0.0270	0.649	0.1185
Methylcyclohexane	0.0310	0.744	0.1385
C8 + Heavier Hydrocarbons	0.0560	1.343	0.2451
Total Emissions	1.0295	24.709	4.5093
Total Hydrocarbon Emissions	1.0295	24.709	4.5093
Total VOC Emissions	0.6174	14.817	2.7041
Total HAP Emissions	0.0809	1.941	0.3543

GRI-GLYCalc Version 4.0 - EMISSIONS SUMMARY			
Flash Gas Emissions			
Pollutant	(lbs/hr)	(lbs/day)	(tons/yr)
Carbon Dioxide	0.19	4.46	0.81
Methane	21.0889	506.134	92.3694
Ethane	4.6671	112.011	20.4420
Propane	1.2969	31.127	5.6806
Isobutane	0.2433	5.839	1.0656
n-Butane	0.3088	7.410	1.3524
Isopentane	0.0936	2.245	0.4098
n-Pentane	0.0564	1.353	0.2469
Cyclopentane	0.0057	0.136	0.0248
n-Hexane*	0.0181	0.434	0.0792
Cyclohexane	0.0002	0.004	0.0007
Other Hexanes	0.0512	1.228	0.2241
Heptanes	0.0396	0.950	0.1733
2,2,4-Trimethylpentane*	0.0001	0.003	0.0005
Benzene*	0.0002	0.005	0.0008
Toluene*	0.0002	0.005	0.0008
Ethylbenzene*	0.0002	0.004	0.0007
Xylene	0.0001	0.003	0.0006
Methylcyclohexane	0.0065	0.155	0.0283
C8 + Heavier Hydrocarbons	0.0043	0.103	0.0188
Total Emissions	27.8812	669.148	122.1196
Total Hydrocarbon Emissions	27.8812	669.148	122.1196
Total VOC Emissions	2.1252	51.004	9.3082
Total HAP Emissions	0.0189	0.453	0.0827

GRI-GLYCalc Version 4.0 - EMISSIONS SUMMARY ¹			
Combined Total Emission Rates (Regen + Flash Tank)			
Pollutant	(lbs/hr)	(lbs/day)	(tons/yr)
Carbon Dioxide	0.22	5.31	0.97
Methane	21.3071	511.369	93.3249
Ethane	4.8611	116.667	21.2917
Propane	1.4407	34.577	6.3102
Isobutane	0.2893	6.942	1.2670
n-Butane	0.3903	9.366	1.7093
Isopentane	0.1241	2.979	0.5437
n-Pentane	0.0808	1.939	0.3539
Cyclopentane	0.0146	0.350	0.0639
n-Hexane*	0.0341	0.819	0.1495
Cyclohexane	0.0007	0.018	0.0032
Other Hexanes	0.0837	2.008	0.3665
Heptanes	0.1209	2.901	0.5295
2,2,4-Trimethylpentane*	0.0002	0.005	0.0010
Benzene*	0.0070	0.169	0.0308
Toluene*	0.0124	0.298	0.0544
Ethylbenzene*	0.0187	0.450	0.0821
Xylene	0.0272	0.653	0.1191
Methylcyclohexane	0.0375	0.899	0.1641
C8 + Heavier Hydrocarbons	0.0603	1.446	0.2640
Total Emissions	28.9107	693.857	126.6289
Total Hydrocarbon Emissions	28.9107	693.857	126.6289
Total VOC Emissions	2.7425	65.821	12.0123
Total HAP Emissions	0.0998	2.394	0.4369

Enclosed Combustor Emissions

Control Efficiency of Combustor 0%
Pilot Rating 0 MMBtu/hr
Combustor Rating 0 MMBtu/hr

Pollutant	Emission Factors (lb/MMBtu)	Combustor Potential Emissions (lb/hr) (tpy)	Pilot Potential Emissions (lb/hr) (tpy)
NO _x	0.090	---	---
CO	0.075	---	---
PM/PM ₁₀	0.007	---	---
SO ₂	0.001	---	---
CO ₂ ^d (Natural Gas Firing)	116.997	---	---
CH ₄ ^d (Natural Gas Firing)	0.002	---	---
N ₂ O ^d (Natural Gas Firing)	0.000	---	---

*HAPs

¹ Based on GRI GlyCalc 4.0 run at dry gas flowrate of 38 MMSCFD and T and P of 70 °F and 875 psig, respectively. The flash tank operating parameters are 75 °F and 70 psig.

² All constituents that were below the detection limit were conservatively represented in the GLYCalc run as half of the detection limit.

Company Name: EQT Production, LLC
Facility Name: BIG 57-176 Meter Station
Project Description: G-70A Permit Application

Reboiler

Parameter	Value	Units
Fuel Used	Natural Gas	
Higher Heating Value (HHV)	1,115	BTU/scf
Heat Input	0.31	MMBtu/hr
Fuel Consumption	2.78E-04	MMscf/hr
Potential Annual Hours of Operation	8,760	hr/yr

Criteria and Manufacturer Specific Pollutant Emission Rates:

Pollutant	Emission Factor (lb/MMscf) ¹	Potential Emissions	
		(lb/hr) ²	(tons/yr) ³
NO _x	100	2.8E-02	1.2E-01
CO	84	2.3E-02	1.0E-01
SO ₂	0.6	1.7E-04	7.3E-04
PM Total	7.6	2.1E-03	9.3E-03
PM Condensable	5.7	1.6E-03	6.9E-03
PM ₁₀ (Filterable)	1.9	5.3E-04	2.3E-03
PM _{2.5} (Filterable)	1.9	5.3E-04	2.3E-03
VOC	5.5	1.5E-03	6.7E-03
Lead	5.00E-04	1.4E-07	6.1E-07
CO ₂ (Natural Gas Firing) ⁴	130,393	36	159
CH ₄ (Natural Gas Firing) ⁴	2.5	6.8E-04	3.0E-03
N ₂ O (Natural Gas Firing) ⁴	0.25	6.8E-05	3.0E-04

Company Name: EQT Production, LLC
Facility Name: BIG 57-176 Meter Station
Project Description: G-70A Permit Application

Reboiler

Hazardous Air Pollutant (HAP) Potential Emissions:

	Emission Factor	Potential Emissions	
Pollutant	(lb/MMscf) ¹	(lb/hr) ²	(tons/yr) ³
HAPs:			
Methylnaphthalene (2-)	2.4E-05	6.7E-09	2.9E-08
3-Methylchloranthrene	1.8E-06	5.0E-10	2.2E-09
7,12-Dimethylbenz(a)anthracene	1.6E-05	4.5E-09	1.9E-08
Acenaphthene	1.8E-06	5.0E-10	2.2E-09
Acenaphthylene	1.8E-06	5.0E-10	2.2E-09
Anthracene	2.4E-06	6.7E-10	2.9E-09
Benz(a)anthracene	1.8E-06	5.0E-10	2.2E-09
Benzene	2.1E-03	5.8E-07	2.6E-06
Benzo(a)pyrene	1.2E-06	3.3E-10	1.5E-09
Benzo(b)fluoranthene	1.8E-06	5.0E-10	2.2E-09
Benzo(g,h,i)perylene	1.2E-06	3.3E-10	1.5E-09
Benzo(k)fluoranthene	1.8E-06	5.0E-10	2.2E-09
Chrysene	1.8E-06	5.0E-10	2.2E-09
Dibenzo(a,h) anthracene	1.2E-06	3.3E-10	1.5E-09
Dichlorobenzene	1.2E-03	3.3E-07	1.5E-06
Fluoranthene	3.0E-06	8.3E-10	3.7E-09
Fluorene	2.8E-06	7.8E-10	3.4E-09
Formaldehyde	7.5E-02	2.1E-05	9.1E-05
Hexane	1.8E+00	5.0E-04	2.2E-03
Indo(1,2,3-cd)pyrene	1.8E-06	5.0E-10	2.2E-09
Naphthalene	6.1E-04	1.7E-07	7.4E-07
Phenanthrene	1.7E-05	4.7E-09	2.1E-08
Pyrene	5.0E-06	1.4E-09	6.1E-09
Toluene	3.4E-03	9.5E-07	4.1E-06
Arsenic	2.0E-04	5.6E-08	2.4E-07
Beryllium	1.2E-05	3.3E-09	1.5E-08
Cadmium	1.1E-03	3.1E-07	1.3E-06
Chromium	1.4E-03	3.9E-07	1.7E-06
Cobalt	8.4E-05	2.3E-08	1.0E-07
Manganese	3.8E-04	1.1E-07	4.6E-07
Mercury	2.6E-04	7.2E-08	3.2E-07
Nickel	2.1E-03	5.8E-07	2.6E-06
Selenium	2.4E-05	6.7E-09	2.9E-08
Total HAP		5.3E-04	2.3E-03

¹ Emission factors from AP-42 Section 1.4 "Natural Gas Combustion" Tables 1.4-1, 1.4-2, 1.4-3, & 1.4-4.

² Emission Rate (lb/hr) = Rated Capacity (MMscf/hr) × Emission Factor (lb/MMscf).

³ Annual Emissions (tons/yr)_{Potential} = (lb/hr)_{Emissions} × (Maximum Allowable Operating Hours, 8760 hr/yr) × (1 ton/2000 lb).

⁴ GHG Emission factors from Tables C-1 and C-2, 40 CFR 98, Subpart C.

Company Name:

EQT Production, LLC

Facility Name:

BIG 57-176 Meter Station

Project Description:

G-70A Permit Application

Fugitive Components

Component Counts

Facility Equipment Type ¹	Valves	Connectors	Open-Ended Lines	Pressure Relief Devices
Wellhead	8	38	0.5	0
Separators	1	6	0	0
Meters/Piping	12	45	0	0
Compressors	12	57	0	0
In-line heaters	14	65	2	1
Dehydrators	24	90	2	2

¹ Table W-1B to Subpart W of Part 98 — Default Average Component Counts for Major Onshore Natural Gas Production

Fugitive Emissions from Component Leaks

Equipment Type	Service	Emission Factors ¹ (kg/hr/source)	Facility Equipment Count ² (units)	TOC Total Fugitive Emissions (lb/hr)	TOC Annual Fugitive Emissions (tpy)
Valves	Gas	5.97E-03	56	0.74	3.23
Pump Seals	Light Liquid	1.99E-02	1	0.04	0.19
Pressure Relief Valves	Gas	1.04E-01	3	0.69	3.01
Connectors	All	1.83E-03	212	0.86	3.75
Open-Ended Lines	All	1.70E-03	3	0.01	0.05
Emission Totals:				2.34	10.23

¹ U.S. EPA. Office of Air Quality Planning and Standards. *Protocol for Equipment Leak Emission Estimates*. Table 2-1. (Research Triangle Park, NC: U.S. EPA EPA-453/R-95-017, 1995). SOCMI factors were used as it was representative of natural gas liquids extraction.

² Assumes one pump for liquid loading, one dehydrator, one separator, and one meter. 50% safety factor added to the component counts.

VOC and HAP Weight Fractions ¹

Service	Weight Fraction VOC	Weight Fraction Hexane	Weight Fraction Benzene	Weight Fraction Toluene	Weight Fraction Ethylbenzene	Weight Fraction 2,2,4-trimethylpentane	Weight Fraction Xylene
Gas	0.100	3.8E-04	<0.001	<0.001	<0.001	<0.001	<0.001
Light Liquid	1.000	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
All	0.100	3.8E-04	<0.001	<0.001	<0.001	<0.001	<0.001

¹ All weight fractions from the same representative gas analyses used for other emission calculation

Company Name:

EQT Production, LLC

Facility Name:

BIG 57-176 Meter Station

Project Description:

G-70A Permit Application

Fugitive Components

VOC and HAP Fugitive Emissions

Pollutant	Hourly Fugitive Emissions (lb/hr)	Annual Fugitive Emissions (tpy)
VOC	0.273	1.20
Hexane	8.8E-04	3.8E-03
Benzene	<0.001	<0.001
Toluene	<0.001	<0.001
Ethylbenzene	<0.001	<0.001
2,2,4-trimethylpentane	<0.001	<0.001
Xylene	<0.001	<0.001
Total HAP	8.8E-04	3.8E-03

GHG Fugitive Emissions from Component Leaks

Component	Component Count ¹	GHG Emission Factor ² (scf/hr/component)	CH ₄ Emissions ^{3,4} (tpy)	CO ₂ Emissions ^{3,4} (tpy)	CO ₂ e Emissions ⁵ (tpy)
Connectors	212	3.0E-03	1.0E-01	4.1E-04	2.6E+00
Open-Ended Lines	3	6.1E-02	3.0E-02	1.2E-04	7.5E-01
Pressure Relief Devices	3	4.0E-02	2.0E-02	7.8E-05	4.9E-01
Pneumatic Devices	5	6.0E+00	4.9E+00	2.0E-02	1.2E+02
Valves	56	2.7E-02	2.5E-01	9.8E-04	6.2E+00
Total			5.3	0.021	133

¹ The component count for pneumatics assumes 5 pneumatics

² Population emission factors for gas service in the Eastern U.S. fromTable W-1A of Subpart W - Default Whole Gas Emission Factors for Onshore Production , 40 CFR 98, Subpart W, except for pneumatics, which are set at NSPS OOOO limits.

³ Calculated in accordance with Equations W-31, W-35 and W-36 in Subpart W of 40 CFR 98.

⁴ Mole fractions of CH₄ and CO₂ based on gas analysis:

CH₄:

88.72%

CO₂:

0.13%

⁵ Carbon equivalent emissions (CO₂e) are based on the following Global Warming Potentials (GWP) from 40 CFR Part 98, Table A-1:

Carbon Dioxide (CO₂):

1

Methane (CH₄):

25

Company Name:

EQT Production, LLC

Facility Name:

BIG 57-176 Meter Station

Project Description:

G-70A Permit Application

Haul Roads

Estimated Potential Road Fugitive Emissions

Unpaved Road Emissions

Unpaved Roads: $E \text{ (lb/VMT)} = k(s/12)^a(W/3)^b \cdot [(365-p)/365]$

	PM	PM ₁₀	PM _{2.5}	
k Factor (lb/VMT)	4.9	1.5	0.15	AP-42 Table 13.2.2-2 (Final, 11/06)
Silt content, s	4.8	%		AP-42 Table 13.2.2-1 (11/06), for Sand and Gravel Processing
Number of Rain Days, p	150			AP-42 Figure 13.2.1-2
a	0.7	0.9	0.9	AP-42 Table 13.2.2-2 (Final, 11/06)
b	0.45	0.45	0.45	AP-42 Table 13.2.2-2 (Final, 11/06)

Description	Weight of Empty Truck (tons)	Weight of Truck w/ Max Load (tons)	Mean Vehicle Weight (tons)	Length of Unpaved Road Traveled (mile/trip)	Trips Per Year	Mileage Per Year	Control (%)	Emissions (tpy)		
								PM	PM ₁₀	PM _{2.5}
Liquids Hauling	20	40	30	0.04	52	2	0	4.2E-03	1.1E-03	1.1E-04
Employee Vehicles	3	3	3	0.04	200	8	0	5.8E-03	1.5E-03	1.5E-04
Total Potential Emissions								1.0E-02	2.5E-03	2.5E-04

Company Name: EQT Production, LLC
Facility Name: BIG 57-176 Meter Station
Project Description: G-70A Permit Application

Gas Analysis

Sample Location: Big Run Dehy Inlet
Sample Date: 11/20/2014
HHV (Btu/scf): 1,115

Constituent	Natural Gas Stream Speciation (Mole %)	Molecular Weight	Molar Weight	Average Weight Fraction	Natural Gas Stream Speciation (Wt. %)
Carbon Dioxide	0.128	44.01	5.6E-02	3.1E-03	3.1E-01
Nitrogen	0.316	28.01	8.9E-02	4.9E-03	4.9E-01
Methane	88.719	16.04	1.4E+01	7.9E-01	7.9E+01
Ethane	8.783	30.07	2.6E+00	1.5E-01	1.5E+01
Propane	1.489	44.10	6.6E-01	3.6E-02	3.6E+00
Isobutane	0.195	58.12	1.1E-01	6.3E-03	6.3E-01
n-Butane	0.226	58.12	1.3E-01	7.3E-03	7.3E-01
Isopentane	0.058	72.15	4.2E-02	2.3E-03	2.3E-01
n-Pentane	0.032	72.15	2.3E-02	1.3E-03	1.3E-01
Cyclopentane	0.002	70.1	1.4E-03	7.8E-05	7.8E-03
n-Hexane	0.008	86.18	6.9E-03	3.8E-04	3.8E-02
Cyclohexane	<0.001	84.16	0.0E+00	0.0E+00	0.0E+00
Other Hexanes	0.024	86.18	2.1E-02	1.1E-03	1.1E-01
Heptanes	0.015	100.21	1.5E-02	8.3E-04	8.3E-02
Methylcyclohexane	0.002	98.19	2.0E-03	1.1E-04	1.1E-02
2,2,4-Trimethylpentane	<0.001	114.23	0.0E+00	0.0E+00	0.0E+00
Benzene*	<0.001	78.11	0.0E+00	0.0E+00	0.0E+00
Toluene*	<0.001	92.14	0.0E+00	0.0E+00	0.0E+00
Ethylbenzene*	<0.001	106.17	<0.001	<0.001	<0.001
Xylenes*	<0.001	106.16	0.0E+00	0.0E+00	0.0E+00
C8 + Heavies	0.003	114.23	3.4E-03	1.9E-04	1.9E-02
Totals	100.0		18.03	1.00	100

TOC (Total)	99.56	99.20
VOC (Total)	2.05	5.63
HAP (Total)	0.01	0.04

Case Name: EQT BIG Run Dehy Station 38 MMSCFD

File Name: Z:\Client\EQT Corporation\West Virginia\WV Production Wells\153901.0056 WV Wellpads 2015\BIG 57-176\2015-0806 R-13 Mod Application\Attachment N - Emission Calculations\20150811 BIG-Run_Dehy_V1.1.ddf

Date: August 11, 2015

DESCRIPTION:

Description: PTE

Big Run Gas Analysis Sample Date: 11/20/2014

Annual Hours of Operation: 8760.0 hours/yr

EMISSIONS REPORTS:

UNCONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.2181	5.236	0.9555
Ethane	0.1940	4.656	0.8497
Propane	0.1437	3.450	0.6296
Isobutane	0.0460	1.103	0.2013
n-Butane	0.0815	1.956	0.3569
Isopentane	0.0306	0.734	0.1339
n-Pentane	0.0244	0.586	0.1070
Cyclopentane	0.0089	0.214	0.0390
n-Hexane	0.0161	0.385	0.0703
Cyclohexane	0.0006	0.014	0.0025
Other Hexanes	0.0325	0.780	0.1424
Heptanes	0.0813	1.951	0.3561
Methylcyclohexane	0.0310	0.744	0.1358
2,2,4-Trimethylpentane	0.0001	0.003	0.0005
Benzene	0.0068	0.164	0.0300
Toluene	0.0122	0.294	0.0536
Ethylbenzene	0.0186	0.446	0.0814
Xylenes	0.0270	0.649	0.1185
C8+ Heavies	0.0560	1.343	0.2451
Total Emissions	1.0295	24.709	4.5093
Total Hydrocarbon Emissions	1.0295	24.709	4.5093
Total VOC Emissions	0.6174	14.817	2.7041
Total HAP Emissions	0.0809	1.941	0.3543
Total BTEX Emissions	0.0647	1.553	0.2835

FLASH TANK OFF GAS

Component	lbs/hr	lbs/day	tons/yr
Methane	21.0889	506.134	92.3694
Ethane	4.6671	112.011	20.4420
Propane	1.2969	31.127	5.6806
Isobutane	0.2433	5.839	1.0656
n-Butane	0.3088	7.410	1.3524
Isopentane	0.0936	2.245	0.4098
n-Pentane	0.0564	1.353	0.2469

Cyclopentane	0.0057	0.136	0.0248
n-Hexane	0.0181	0.434	0.0792
Cyclohexane	0.0002	0.004	0.0007
Other Hexanes	0.0512	1.228	0.2241
Heptanes	0.0396	0.950	0.1733
Methylcyclohexane	0.0065	0.155	0.0283
2,2,4-Trimethylpentane	0.0001	0.003	0.0005
Benzene	0.0002	0.005	0.0008
Toluene	0.0002	0.005	0.0008
Ethylbenzene	0.0002	0.004	0.0007
Xylenes	0.0001	0.003	0.0006
C8+ Heavies	0.0043	0.103	0.0188
<hr/>			
Total Emissions	27.8812	669.148	122.1196
Total Hydrocarbon Emissions	27.8812	669.148	122.1196
Total VOC Emissions	2.1252	51.004	9.3082
Total HAP Emissions	0.0189	0.453	0.0827
Total BTEX Emissions	0.0007	0.016	0.0030

COMBINED REGENERATOR VENT/FLASH GAS EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	21.3071	511.369	93.3249
Ethane	4.8611	116.667	21.2917
Propane	1.4407	34.577	6.3102
Isobutane	0.2893	6.942	1.2670
n-Butane	0.3903	9.366	1.7093
Isopentane	0.1241	2.979	0.5437
n-Pentane	0.0808	1.939	0.3539
Cyclopentane	0.0146	0.350	0.0639
n-Hexane	0.0341	0.819	0.1495
Cyclohexane	0.0007	0.018	0.0032
Other Hexanes	0.0837	2.008	0.3665
Heptanes	0.1209	2.901	0.5295
Methylcyclohexane	0.0375	0.899	0.1641
2,2,4-Trimethylpentane	0.0002	0.005	0.0010
Benzene	0.0070	0.169	0.0308
Toluene	0.0124	0.298	0.0544
Ethylbenzene	0.0187	0.450	0.0821
Xylenes	0.0272	0.653	0.1191
C8+ Heavies	0.0603	1.446	0.2640
<hr/>			
Total Emissions	28.9107	693.857	126.6289
Total Hydrocarbon Emissions	28.9107	693.857	126.6289
Total VOC Emissions	2.7425	65.821	12.0123
Total HAP Emissions	0.0998	2.394	0.4369
Total BTEX Emissions	0.0654	1.570	0.2864

COMBINED REGENERATOR VENT/FLASH GAS EMISSION CONTROL REPORT:

Component	Uncontrolled tons/yr	Controlled tons/yr	% Reduction
Methane	93.3249	93.3249	0.00
Ethane	21.2917	21.2917	0.00
Propane	6.3102	6.3102	0.00

Isobutane	1.2670	1.2670	0.00
n-Butane	1.7093	1.7093	0.00
Isopentane	0.5437	0.5437	0.00
n-Pentane	0.3539	0.3539	0.00
Cyclopentane	0.0639	0.0639	0.00
n-Hexane	0.1495	0.1495	0.00
Cyclohexane	0.0032	0.0032	0.00
Other Hexanes	0.3665	0.3665	0.00
Heptanes	0.5295	0.5295	0.00
Methylcyclohexane	0.1641	0.1641	0.00
2,2,4-Trimethylpentane	0.0010	0.0010	0.00
Benzene	0.0308	0.0308	0.00
Toluene	0.0544	0.0544	0.00
Ethylbenzene	0.0821	0.0821	0.00
Xylenes	0.1191	0.1191	0.00
C8+ Heavies	0.2640	0.2640	0.00

Total Emissions	126.6289	126.6289	0.00

Total Hydrocarbon Emissions	126.6289	126.6289	0.00
Total VOC Emissions	12.0123	12.0123	0.00
Total HAP Emissions	0.4369	0.4369	0.00
Total BTEX Emissions	0.2864	0.2864	0.00

EQUIPMENT REPORTS:

ABSORBER

NOTE: Because the Calculated Absorber Stages was below the minimum allowed, GRI-GLYCalc has set the number of Absorber Stages to 1.25 and has calculated a revised Dry Gas Dew Point.

Calculated Absorber Stages: 1.25
 Calculated Dry Gas Dew Point: 2.05 lbs. H2O/MMSCF

Temperature: 70.0 deg. F
 Pressure: 875.0 psig
 Dry Gas Flow Rate: 38.0000 MMSCF/day
 Glycol Losses with Dry Gas: 0.1276 lb/hr
 Wet Gas Water Content: Saturated
 Calculated Wet Gas Water Content: 25.64 lbs. H2O/MMSCF
 Calculated Lean Glycol Recirc. Ratio: 2.41 gal/lb H2O

Component	Remaining in Dry Gas	Absorbed in Glycol

Water	7.98%	92.02%
Carbon Dioxide	99.94%	0.06%
Nitrogen	100.00%	0.00%
Methane	100.00%	0.00%
Ethane	99.99%	0.01%
Propane	99.98%	0.02%
Isobutane	99.97%	0.03%
n-Butane	99.96%	0.04%
Isopentane	99.96%	0.04%
n-Pentane	99.95%	0.05%
Cyclopentane	99.78%	0.22%

n-Hexane	99.91%	0.09%
Cyclohexane	99.61%	0.39%
Other Hexanes	99.94%	0.06%
Heptanes	99.84%	0.16%
Methylcyclohexane	99.58%	0.42%
2,2,4-Trimethylpentane	99.94%	0.06%
Benzene	95.71%	4.29%
Toluene	93.57%	6.43%
Ethylbenzene	91.57%	8.43%
Xylenes	87.75%	12.25%
C8+ Heavies	99.75%	0.25%

FLASH TANK

Flash Control: Vented to atmosphere
Flash Temperature: 75.0 deg. F
Flash Pressure: 70.0 psig

Component	Left in Glycol	Removed in Flash Gas
Water	99.96%	0.04%
Carbon Dioxide	16.03%	83.97%
Nitrogen	0.95%	99.05%
Methane	1.02%	98.98%
Ethane	3.99%	96.01%
Propane	9.98%	90.02%
Isobutane	15.89%	84.11%
n-Butane	20.88%	79.12%
Isopentane	24.84%	75.16%
n-Pentane	30.44%	69.56%
Cyclopentane	61.29%	38.71%
n-Hexane	47.22%	52.78%
Cyclohexane	77.70%	22.30%
Other Hexanes	39.26%	60.74%
Heptanes	67.40%	32.60%
Methylcyclohexane	83.42%	16.58%
2,2,4-Trimethylpentane	48.79%	51.21%
Benzene	97.43%	2.57%
Toluene	98.57%	1.43%
Ethylbenzene	99.27%	0.73%
Xylenes	99.55%	0.45%
C8+ Heavies	93.64%	6.36%

REGENERATOR

No Stripping Gas used in regenerator.

Component	Remaining in Glycol	Distilled Overhead
Water	25.31%	74.69%
Carbon Dioxide	0.00%	100.00%
Nitrogen	0.00%	100.00%
Methane	0.00%	100.00%
Ethane	0.00%	100.00%
Propane	0.00%	100.00%

Isobutane	0.00%	100.00%
n-Butane	0.00%	100.00%
Isopentane	1.10%	98.90%
n-Pentane	1.01%	98.99%
Cyclopentane	0.71%	99.29%
n-Hexane	0.77%	99.23%
Cyclohexane	3.81%	96.19%
Other Hexanes	1.71%	98.29%
Heptanes	0.62%	99.38%
Methylcyclohexane	4.47%	95.53%
2,2,4-Trimethylpentane	2.05%	97.95%
Benzene	5.10%	94.90%
Toluene	7.99%	92.01%
Ethylbenzene	10.47%	89.53%
Xylenes	13.00%	87.00%
C8+ Heavies	11.59%	88.41%

STREAM REPORTS:

WET GAS STREAM

Temperature: 70.00 deg. F
Pressure: 889.70 psia
Flow Rate: 1.58e+006 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	5.40e-002	4.06e+001
Carbon Dioxide	1.28e-001	2.35e+002
Nitrogen	3.16e-001	3.69e+002
Methane	8.87e+001	5.94e+004
Ethane	8.78e+000	1.10e+004
Propane	1.49e+000	2.74e+003
Isobutane	1.95e-001	4.73e+002
n-Butane	2.26e-001	5.48e+002
Isopentane	5.80e-002	1.75e+002
n-Pentane	3.20e-002	9.63e+001
Cyclopentane	2.00e-003	5.85e+000
n-Hexane	8.00e-003	2.88e+001
Cyclohexane	5.00e-005	1.76e-001
Other Hexanes	2.40e-002	8.63e+001
Heptanes	1.50e-002	6.27e+001
Methylcyclohexane	2.00e-003	8.19e+000
2,2,4-Trimethylpentane	5.00e-005	2.38e-001
Benzene	5.00e-005	1.63e-001
Toluene	5.00e-005	1.92e-001
Ethylbenzene	5.00e-005	2.22e-001
Xylenes	5.00e-005	2.22e-001
C8+ Heavies	3.00e-003	2.13e+001
Total Components	100.00	7.53e+004

DRY GAS STREAM

Temperature: 70.00 deg. F
 Pressure: 889.70 psia
 Flow Rate: 1.58e+006 scfh

Component	Conc. (vol%)	Loading (lb/hr)
-----	-----	-----
Water	4.31e-003	3.24e+000
Carbon Dioxide	1.28e-001	2.35e+002
Nitrogen	3.16e-001	3.69e+002
Methane	8.87e+001	5.94e+004
Ethane	8.78e+000	1.10e+004
Propane	1.49e+000	2.74e+003
Isobutane	1.95e-001	4.73e+002
n-Butane	2.26e-001	5.48e+002
Isopentane	5.80e-002	1.75e+002
n-Pentane	3.20e-002	9.63e+001
Cyclopentane	2.00e-003	5.84e+000
n-Hexane	7.99e-003	2.87e+001
Cyclohexane	4.98e-005	1.75e-001
Other Hexanes	2.40e-002	8.63e+001
Heptanes	1.50e-002	6.26e+001
Methylcyclohexane	1.99e-003	8.16e+000
2,2,4-Trimethylpentane	5.00e-005	2.38e-001
Benzene	4.79e-005	1.56e-001
Toluene	4.68e-005	1.80e-001
Ethylbenzene	4.58e-005	2.03e-001
Xylenes	4.39e-005	1.94e-001
C8+ Heavies	2.99e-003	2.13e+001
-----	-----	-----
Total Components	100.00	7.53e+004

LEAN GLYCOL STREAM

Temperature: 70.00 deg. F
 Flow Rate: 1.50e+000 gpm

Component	Conc. (wt%)	Loading (lb/hr)
-----	-----	-----
TEG	9.85e+001	8.32e+002
Water	1.50e+000	1.27e+001
Carbon Dioxide	1.72e-012	1.45e-011
Nitrogen	1.78e-013	1.50e-012
Methane	8.50e-018	7.18e-017
Ethane	7.28e-008	6.15e-007
Propane	2.68e-009	2.26e-008
Isobutane	4.85e-010	4.10e-009
n-Butane	6.26e-010	5.29e-009
Isopentane	4.03e-005	3.41e-004
n-Pentane	2.96e-005	2.50e-004
Cyclopentane	7.55e-006	6.38e-005
n-Hexane	1.48e-005	1.25e-004
Cyclohexane	2.66e-006	2.25e-005
Other Hexanes	6.68e-005	5.64e-004
Heptanes	5.99e-005	5.06e-004
Methylcyclohexane	1.72e-004	1.45e-003
2,2,4-Trimethylpentane	2.73e-007	2.31e-006
Benzene	4.36e-005	3.68e-004
Toluene	1.26e-004	1.06e-003

Ethylbenzene	2.57e-004	2.17e-003
Xylenes	4.78e-004	4.04e-003
C8+ Heavies	8.69e-004	7.34e-003

Total Components	100.00	8.45e+002

RICH GLYCOL AND PUMP GAS STREAM

Temperature: 70.00 deg. F
 Pressure: 889.70 psia
 Flow Rate: 1.64e+000 gpm
 NOTE: Stream has more than one phase.

Component	Conc. (wt%)	Loading (lb/hr)

TEG	9.13e+001	8.32e+002
Water	5.50e+000	5.01e+001
Carbon Dioxide	2.43e-002	2.21e-001
Nitrogen	1.47e-002	1.34e-001
Methane	2.34e+000	2.13e+001
Ethane	5.34e-001	4.86e+000
Propane	1.58e-001	1.44e+000
Isobutane	3.18e-002	2.89e-001
n-Butane	4.28e-002	3.90e-001
Isopentane	1.37e-002	1.24e-001
n-Pentane	8.90e-003	8.11e-002
Cyclopentane	1.61e-003	1.46e-002
n-Hexane	3.76e-003	3.43e-002
Cyclohexane	8.33e-005	7.59e-004
Other Hexanes	9.25e-003	8.42e-002
Heptanes	1.33e-002	1.21e-001
Methylcyclohexane	4.27e-003	3.89e-002
2,2,4-Trimethylpentane	2.53e-005	2.31e-004
Benzene	8.13e-004	7.41e-003
Toluene	1.48e-003	1.35e-002
Ethylbenzene	2.30e-003	2.09e-002
Xylenes	3.43e-003	3.12e-002
C8+ Heavies	7.42e-003	6.76e-002

Total Components	100.00	9.11e+002

FLASH TANK OFF GAS STREAM

Temperature: 75.00 deg. F
 Pressure: 84.70 psia
 Flow Rate: 5.78e+002 scfh

Component	Conc. (vol%)	Loading (lb/hr)

Water	6.59e-002	1.81e-002
Carbon Dioxide	2.77e-001	1.86e-001
Nitrogen	3.12e-001	1.33e-001
Methane	8.64e+001	2.11e+001
Ethane	1.02e+001	4.67e+000
Propane	1.93e+000	1.30e+000
Isobutane	2.75e-001	2.43e-001
n-Butane	3.49e-001	3.09e-001
Isopentane	8.52e-002	9.36e-002
n-Pentane	5.13e-002	5.64e-002

Cyclopentane	5.31e-003	5.67e-003
n-Hexane	1.38e-002	1.81e-002
Cyclohexane	1.32e-004	1.69e-004
Other Hexanes	3.90e-002	5.12e-002
Heptanes	2.59e-002	3.96e-002
Methylcyclohexane	4.32e-003	6.45e-003
2,2,4-Trimethylpentane	6.80e-005	1.18e-004
Benzene	1.60e-004	1.90e-004
Toluene	1.38e-004	1.94e-004
Ethylbenzene	9.38e-005	1.52e-004
Xylenes	8.69e-005	1.40e-004
C8+ Heavies	1.66e-003	4.30e-003

Total Components	100.00	2.82e+001

FLASH TANK GLYCOL STREAM

Temperature: 75.00 deg. F
Flow Rate: 1.58e+000 gpm

Component	Conc. (wt%)	Loading (lb/hr)

TEG	9.42e+001	8.32e+002
Water	5.67e+000	5.00e+001
Carbon Dioxide	4.01e-003	3.54e-002
Nitrogen	1.45e-004	1.28e-003
Methane	2.47e-002	2.18e-001
Ethane	2.20e-002	1.94e-001
Propane	1.63e-002	1.44e-001
Isobutane	5.21e-003	4.60e-002
n-Butane	9.23e-003	8.15e-002
Isopentane	3.50e-003	3.09e-002
n-Pentane	2.80e-003	2.47e-002
Cyclopentane	1.02e-003	8.98e-003
n-Hexane	1.83e-003	1.62e-002
Cyclohexane	6.68e-005	5.90e-004
Other Hexanes	3.75e-003	3.31e-002
Heptanes	9.27e-003	8.18e-002
Methylcyclohexane	3.68e-003	3.25e-002
2,2,4-Trimethylpentane	1.28e-005	1.13e-004
Benzene	8.17e-004	7.22e-003
Toluene	1.51e-003	1.33e-002
Ethylbenzene	2.35e-003	2.08e-002
Xylenes	3.52e-003	3.11e-002
C8+ Heavies	7.17e-003	6.33e-002

Total Components	100.00	8.83e+002

REGENERATOR OVERHEADS STREAM

Temperature: 212.00 deg. F
Pressure: 14.70 psia
Flow Rate: 7.99e+002 scfh

Component	Conc. (vol%)	Loading (lb/hr)

Water	9.86e+001	3.74e+001

Carbon Dioxide	3.82e-002	3.54e-002
Nitrogen	2.17e-003	1.28e-003
Methane	6.46e-001	2.18e-001
Ethane	3.06e-001	1.94e-001
Propane	1.55e-001	1.44e-001
Isobutane	3.76e-002	4.60e-002
n-Butane	6.66e-002	8.15e-002
Isopentane	2.01e-002	3.06e-002
n-Pentane	1.61e-002	2.44e-002
Cyclopentane	6.04e-003	8.91e-003
n-Hexane	8.85e-003	1.61e-002
Cyclohexane	3.20e-004	5.67e-004
Other Hexanes	1.79e-002	3.25e-002
Heptanes	3.85e-002	8.13e-002
Methylcyclohexane	1.50e-002	3.10e-002
2,2,4-Trimethylpentane	4.59e-005	1.10e-004
Benzene	4.16e-003	6.85e-003
Toluene	6.31e-003	1.22e-002
Ethylbenzene	8.32e-003	1.86e-002
Xylenes	1.21e-002	2.70e-002
C8+ Heavies	1.56e-002	5.60e-002

Total Components	100.00	3.84e+001



Certificate of Analysis
Number: 2030-14120043-002A

Carencro Laboratory
4790 NE Evangeline Thruway
Carencro, LA 70520

Gary Vermillion
Gas Analytical Services
PO Box 1028
Bridgeport, WV 26330

Dec. 08, 2014

Field: EQT
Station Name: Big Run Dehy Inlet
Sample Point: Wellhead
Cylinder No: 0343
Analyzed: 12/03/2014 06:53:38 by GR2

Sampled By: CD-GAS
Sample Of: Gas Spot
Sample Date: 11/20/2014 12:30
Sample Conditions: 60 psig
Method: GPA 2286

Pressure should be 850
- 900 psi

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.73 psia		
Nitrogen	0.316	0.491		GPM TOTAL C2+	2.956
Carbon Dioxide	0.128	0.312		GPM TOTAL C3+	0.602
Methane	88.719	78.916		GPM TOTAL iC5+	0.056
Ethane	8.783	14.643	2.354		
Propane	1.489	3.640	0.411		
Iso-Butane	0.195	0.628	0.064		
n-Butane	0.226	0.728	0.071		
Iso-Pentane	0.058	0.232	0.021		
n-Pentane	0.032	0.128	0.012		
Hexanes	0.033	0.145	0.012		
Heptanes Plus	0.021	0.137	0.011		
	100.000	100.000	2.956		

Physical Properties	Total	C7+
Relative Density Real Gas	0.6241	3.6515
Calculated Molecular Weight	18.04	105.76
Compressibility Factor	0.9974	

GPA 2172-09 Calculation:

Calculated Gross BTU per ft³ @ 14.73 psia & 60°F

Real Gas Dry BTU	1115	5696
Water Sat. Gas Base BTU	1095	5597

Comments: H2O Mol% : 1.740 ; Wt% : 1.739

Hydrocarbon Laboratory Manager

Quality Assurance:

The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.



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Carencro Laboratory
4790 NE Evangeline Thruway
Carencro, LA 70520

Gary Vermillion
Gas Analytical Services
PO Box 1028
Bridgeport, WV 26330

Dec. 08, 2014

Field: EQT
Station Name: Big Run Dehy Inlet
Sample Point: Wellhead
Cylinder No: 0343
Analyzed: 12/03/2014 06:53:38 by GR2

Sampled By: CD-GAS
Sample Of: Gas Spot
Sample Date: 11/20/2014 12:30
Sample Conditions: 60 psig
Method: GPA 2286

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.73 psia		
Nitrogen	0.316	0.491		GPM TOTAL C2+	2.956
Carbon Dioxide	0.128	0.312		GPM TOTAL C3+	0.602
Methane	88.719	78.916		GPM TOTAL iC5+	0.056
Ethane	8.783	14.643	2.354		
Propane	1.489	3.640	0.411		
Iso-butane	0.195	0.628	0.064		
n-Butane	0.226	0.728	0.071		
Iso-pentane	0.058	0.232	0.021		
n-Pentane	0.032	0.128	0.012		
Hexanes Plus	0.054	0.282	0.023		
	100.000	100.000	2.956		

Physical Properties	Total	C6+
Relative Density Real Gas	0.6241	3.2605
Calculated Molecular Weight	18.04	94.43
Compressibility Factor	0.9974	

GPA 2172-09 Calculation:

Calculated Gross BTU per ft³ @ 14.73 psia & 60°F

Real Gas Dry BTU	1115	5148
Water Sat. Gas Base BTU	1095	5058

Comments: H2O Mol% : 1.740 ; Wt% : 1.738

Hydrocarbon Laboratory Manager

Quality Assurance:

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Certificate of Analysis
Number: 2030-14120043-002A

Carencro Laboratory
4790 NE Evangeline Thruway
Carencro, LA 70520

Gary Vermillion
Gas Analytical Services
PO Box 1028
Bridgeport, WV 26330

Dec. 08, 2014

Field: EQT
Station Name: Big Run Dehy Inlet
Sample Point: Wellhead
Cylinder No: 0343
Analyzed: 12/03/2014 06:53:38 by GR2

Sampled By: CD-GAS
Sample Of: Gas Spot
Sample Date: 11/20/2014 12:30
Sample Conditions: 60 psig
Method: GPA 2286

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.73 psia
Nitrogen	0.316	0.491	
Methane	88.719	78.916	
Carbon Dioxide	0.128	0.312	
Ethane	8.783	14.643	2.354
Propane	1.489	3.640	0.411
Iso-Butane	0.195	0.628	0.064
n-Butane	0.226	0.728	0.071
Iso-Pentane	0.058	0.232	0.021
n-Pentane	0.032	0.128	0.012
i-Hexanes	0.026	0.112	0.009
n-Hexane	0.007	0.033	0.003
Benzene	NIL	0.001	NIL
Cyclohexane	NIL	NIL	NIL
i-Heptanes	0.013	0.063	0.005
n-Heptane	0.002	0.010	0.001
Toluene	NIL	NIL	NIL
i-Octanes	0.006	0.033	0.003
n-Octane	NIL	0.003	NIL
Ethylbenzene	NIL	NIL	NIL
Xylenes	NIL	0.004	NIL
i-Nonanes	NIL	0.008	0.001
n-Nonane	NIL	0.002	NIL
i-Decanes	NIL	0.008	0.001
n-Decane	NIL	NIL	NIL
Undecanes	NIL	0.004	NIL
Dodecanes	NIL	0.001	NIL
Tridecanes	NIL	NIL	NIL
Tetradecanes Plus	NIL	NIL	NIL
	100.000	100.000	2.956

Physical Properties	Total
Calculated Molecular Weight	18.036
GPA 2172-09 Calculation:	
Calculated Gross BTU per ft³ @ 14.73 psia & 60°F	
Real Gas Dry BTU	1114.5
Water Sat. Gas Base BTU	1095.1
Relative Density Real Gas	0.6241
Compressibility Factor	0.9974

Patti L. Petro

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.



Certificate of Analysis

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Carencro Laboratory
4790 NE Evangeline Thruway
Carencro, LA 70520

Gary Vermillion
Gas Analytical Services
PO Box 1028
Bridgeport, WV 26330

Dec. 08, 2014

Field: EQT
Station Name: Big Run Dehy Inlet
Sample Point: Wellhead
Cylinder No: 0343
Analyzed: 12/03/2014 06:53:38 by GR2

Sampled By: CD-GAS
Sample Of: Gas Spot
Sample Date: 11/20/2014 12:30
Sample Conditions: 60 psig
Method: GPA 2286

Analytical Data

Components	Mol. %	Wt. %
Carbon Dioxide	0.128	0.312
Hydrogen Sulfide	N/R	N/R
Nitrogen	0.316	0.491
Methane	88.719	78.916
Ethane	8.783	14.643
Propane	1.489	3.641
Iso-Butane	0.195	0.628
n-Butane	0.226	0.728
Iso-Pentane	0.058	0.232
n-Pentane	0.032	0.128
Cyclopentane	0.002	0.007
n-Hexane	0.008	0.033
Cyclohexane	NIL	NIL
Other Hexanes	0.024	0.104
n-Heptane	0.002	0.010
Other Heptanes	0.013	0.057
Methylcyclohexane	0.002	0.010
2,2,4-Trimethylpentane	NIL	NIL
Benzene	NIL	0.001
Toluene	NIL	NIL
Ethylbenzene	NIL	NIL
Xylenes	NIL	0.006
C8 + Heavies	0.003	0.053
	100.000	100.000

Hydrocarbon Laboratory Manager

Quality Assurance:

The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

ATTACHMENT O

Monitoring/Recordkeeping/Reporting/Testing Plans

ATTACHMENT O - MONITORING, RECORDING, REPORTING, AND TESTING PLANS

Plan Type	Emission unit	Pollutant	Requirements	Frequency	Method of Measurement	Regulatory Reference
Recordkeeping	Dehydration Unit	HAP	Maintain benzene emissions below 0.9 megagrams/yr	Annual	GRI-GLYCalc with actual operating parameters	40 CFR 63 Subpart HH

ATTACHMENT P

Legal Ad

AIR QUALITY PERMIT NOTICE

Notice of Application

Notice is given that EQT Production has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Class II Administrative update for an existing natural gas meter site (BIG 57-176) located at the junction of County Route (CR) 15 (North Fork Road) and Shuman Hill Road (CR 80) 3.85 miles north of Smithfield, Wetzel County, West Virginia. Site Latitude and Longitude Coordinates are: 39.55320, -80.54511.

The applicant estimates the potential increase to discharge the following Regulated Air Pollutants as a result of the change will be:

Particulate Matter (PM) = -0.01 tpy
Sulfur Dioxide (SO₂) = 0.0 tpy
Volatile Organic Compounds (VOC) = 8.24 tpy
Carbon Monoxide (CO) = -0.18 tpy
Nitrogen Oxides (NO_x) = -0.21 tpy
Hazardous Air Pollutants (HAPs) = 0.26 tpy
Greenhouse Gases (CO₂e) = 2,038 tpy

This facility is currently in operation and is seeking to remove the combustor associated with the existing dehydration unit. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1250, during normal business hours.

Dated this XX day of August, 2015.

By: EQT Production, LLC
 Kenneth Kirk, Executive Vice President
 625 Liberty Avenue Suite 1700
 Pittsburgh, PA 15222