

September 2, 2015

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

Re: Caraline Energy Company, Inc., G35-A General Permit Class II Administrative Update
Main Line Compressor Station
Statts Mills, Jackson County, West Virginia

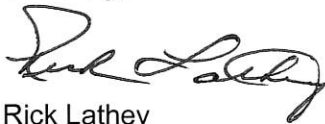
Dear Mr. Durham:

Caraline Energy Company, Inc. is pleased hereby to submit an original and a copy, along with two electronic discs, of a complete G35-A General Permit Class II Administrative Update application in connection with the replacement of a compressor unit at the Main Line Compressor Station located near Statts Mills, Jackson County, West Virginia.

The upgrade work comprises of the removal of an existing Caterpillar G3412C LE compressor unit and the installation of a new AJAX DPC-360 LE compressor unit. The application fee of \$300 as outlined in 45CSR22 is also enclosed. Based on our understanding of the New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines, Subpart JJJJ, and information provided by the engine manufacturer as being constructed in 1985, we believe the engine to be exempt.

If you have any questions or require any additional information, please do not hesitate to contact me. I look forward to working with you throughout the review of this application.

Sincerely,



Rick Lathey
Production Manager

enclosure



APPLICATION FOR GENERAL PERMIT G35-A ADMINISTRATIVE UPDATE

MAIN LINE COMPRESSOR SITE

Statts Mills, Jackson County, West Virginia

Submitted to:
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street
Charleston, West Virginia 25304

Prepared for:
Caraline Energy Company, Inc.
1244 Martin Branch Road
Charleston, West Virginia 25312

Prepared by:
Triad Engineering, Inc.
10541 Teays Valley Road
Scott Depot, West Virginia 25560

September 2015

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WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 DIVISION OF AIR QUALITY
 601 - 57th Street
 Charleston, WV 25304
 Phone: (304) 926-0475 □ www.wvdep.org

APPLICATION FOR GENERAL PERMIT REGISTRATION
 CONSTRUCT, MODIFY, RELOCATE OR ADMINISTRATIVELY UPDATE
 A STATIONARY SOURCE OF AIR POLLUTANTS

PLEASE CHECK ALL THAT APPLY (IF KNOWN):

- CONSTRUCTION MODIFICATION RELOCATION
 ADMINISTRATIVE UPDATE AFTER-THE-FACT

FOR AGENCY USE ONLY: PLANT I.D. # _____

PERMIT # _____ PERMIT WRITER: _____

CHECK WHICH TYPE OF GENERAL PERMIT REGISTRATION YOU ARE APPLYING FOR:

- G10-D** – Coal Preparation and Handling
 G20-B – Hot Mix Asphalt
 G30-D – Natural Gas Compressor Stations
 G33-A – Spark Ignition Internal Combustion Engines
 G35-A – Natural Gas Compressor Stations (Flare/Glycol Dehydration Unit)

- G40-C** – Nonmetallic Minerals Processing
 G50-B – Concrete Batch
 G60-C - Class II Emergency Generator
 G65-C – Class I Emergency Generator

SECTION I. GENERAL INFORMATION

1. NAME OF APPLICANT (AS REGISTERED WITH THE WV SECRETARY OF STATE'S OFFICE):

Caraline Energy Company, Inc.

2. FEDERAL EMPLOYER ID NO. (FEIN):

20-1327915

3. APPLICANT'S MAILING ADDRESS:

**1244 Martins Branch Road
 Charleston, West Virginia 25312**

4. IF APPLICANT IS A SUBSIDIARY CORPORATION, PLEASE PROVIDE THE NAME OF PARENT CORPORATION:

Not Applicable

5. **WV BUSINESS REGISTRATION.** IS THE APPLICANT A RESIDENT OF THE STATE OF WEST VIRGINIA? **YES** **NO**

- IF **YES**, PROVIDE A COPY OF THE **CERTIFICATE OF INCORPORATION / ORGANIZATION / LIMITED PARTNERSHIP** (ONE PAGE) INCLUDING ANY NAME CHANGE AMENDMENTS OR OTHER **BUSINESS 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.**

SECTION II. FACILITY INFORMATION

7. TYPE OF PLANT OR FACILITY (STATIONARY SOURCE) TO BE CONSTRUCTED, MODIFIED, RELOCATED OR ADMINISTRATIVELY UPDATED (E.G., COAL PREPARATION PLANT, PRIMARY CRUSHER, ETC.):

Natural Gas Compressor Station

8. STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE FOR THE FACILITY:

1321

NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) FOR THE FACILITY:

21111

| | |
|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY): <p style="text-align: center;">03500052</p> | 10A. LIST ALL CURRENT 45CSR13 AND 45CSR30 (TITLE V) PERMIT NUMBERS ASSOCIATED WITH THIS PROCESS (FOR EXISTING FACILITY ONLY): <p style="text-align: center;">G35-A072</p> |
|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

PRIMARY OPERATING SITE INFORMATION

| | |
|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11A. NAME OF PRIMARY OPERATING SITE: <p style="text-align: center;">Main Line Compressor Station</p> | 12A. MAILING ADDRESS OF PRIMARY OPERATING SITE: <p style="text-align: center;">There is no mailing address for the site. Further, Caraline Energy does not intend to obtain an address for the site.</p> |
|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

13A. DOES THE APPLICANT OWN, LEASE, HAVE AN OPTION TO BUY, OR OTHERWISE HAVE CONTROL OF THE *PROPOSED SITE*?
 YES **NO**

– IF **YES**, PLEASE EXPLAIN: **Caraline Energy leases the subject site**

– IF **NO**, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.

14A. – FOR **MODIFICATIONS** or **ADMINISTRATIVE UPDATES**, AT AN EXISTING FACILITY, PLEASE PROVIDE DIRECTIONS TO THE *PRESENT LOCATION* OF THE FACILITY FROM THE NEAREST STATE ROAD;
– FOR **CONSTRUCTION OR RELOCATION PERMITS**, PLEASE PROVIDE DIRECTIONS TO *THE PROPOSED NEW SITE LOCATION* FROM THE NEAREST STATE ROAD.

From Interstate 77, take the Ripley/Fairplain Exit toward Church Street/County Road 21/Old US Route 21. Slight right onto Church Street/County Road 21/Old US Route 21, then take the first right onto Cedar Lakes Drive/Parchment Creek Road. Continue on Cedar Lakes Drive/Parchment Creek Road for approximately 0.5 mile, then turn left onto County Road 25. Take first right onto Cedar Valley Road. Continue on Cedar Valley Road for approximately 0.7 mile, then turn right onto County Road 36/Staats Mill Road. Continue on County Road 36/Staats Mill Road for approximately 4.2 miles. County Road 36 turns into County Road 34/5/Grasslick-Staats Mill, then back to County Road 36/Haw Run. Make a slight right to stay on County Road 36/Haw Run for approximately 0.5 mile. Turn left onto County Road 40/1/Rocky Knob. Continue on County Road 40/1/Rocky Knob for approximately 0.8 mile. Arrive at Main Line Compressor Station.

INCLUDE A **MAP** AS ATTACHMENT F.

| | | |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------|
| 15A. NEAREST CITY OR TOWN: <p style="text-align: center;">Staats Mill</p> | 16A. COUNTY: <p style="text-align: center;">Jackson</p> | |
| 17A. UTM NORTHING (KM): <p style="text-align: center;">4289.12</p> | 18A. UTM EASTING (KM): <p style="text-align: center;">446.989</p> | 19A. UTM ZONE: <p style="text-align: center;">17</p> |

1ST ALTERNATE OPERATING SITE INFORMATION

| | |
|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| 11B. NAME OF PRIMARY OPERATING SITE: <p style="text-align: center;">Not Applicable</p> | 12B. MAILING ADDRESS OF PRIMARY OPERATING SITE: <p style="text-align: center;">Not Applicable</p> |
|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------|
| 13B. DOES THE APPLICANT OWN, LEASE, HAVE AN OPTION TO BUY, OR OTHERWISE HAVE CONTROL OF THE <i>PROPOSED SITE</i> ? <input type="checkbox"/> YES <input type="checkbox"/> NO – IF YES, PLEASE EXPLAIN: Not Applicable – IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE. | | |
| 14B. – FOR MODIFICATIONS or ADMINISTRATIVE UPDATES , AT AN EXISTING FACILITY, PLEASE PROVIDE DIRECTIONS TO THE <i>PRESENT LOCATION</i> OF THE FACILITY FROM THE NEAREST STATE ROAD; – FOR CONSTRUCTION OR RELOCATION PERMITS , PLEASE PROVIDE DIRECTIONS TO <i>THE PROPOSED NEW SITE LOCATION</i> FROM THE NEAREST STATE ROAD. Not Applicable INCLUDE A MAP AS ATTACHMENT F. | | |
| 15B. NEAREST CITY OR TOWN: Not Applicable | 16B. COUNTY: Not Applicable | |
| 17B. UTM NORTHING (KM): Not Applicable | 18B. UTM EASTING (KM): Not Applicable | 19B. UTM ZONE: Not Applicable |

2ND ALTERNATE OPERATING SITE INFORMATION

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 11C. NAME OF PRIMARY OPERATING SITE: Not Applicable | 12C. MAILING ADDRESS OF PRIMARY OPERATING SITE: Not Applicable | |
| 13C. DOES THE APPLICANT OWN, LEASE, HAVE AN OPTION TO BUY, OR OTHERWISE HAVE CONTROL OF THE <i>PROPOSED SITE</i> ? <input type="checkbox"/> YES <input type="checkbox"/> NO – IF YES, PLEASE EXPLAIN: Not Applicable – IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE. | | |
| 14C. – FOR MODIFICATIONS or ADMINISTRATIVE UPDATES , AT AN EXISTING FACILITY, PLEASE PROVIDE DIRECTIONS TO THE <i>PRESENT LOCATION</i> OF THE FACILITY FROM THE NEAREST STATE ROAD; – FOR CONSTRUCTION OR RELOCATION PERMITS , PLEASE PROVIDE DIRECTIONS TO <i>THE PROPOSED NEW SITE LOCATION</i> FROM THE NEAREST STATE ROAD. Not Applicable INCLUDE A MAP AS ATTACHMENT F. | | |
| 15C. NEAREST CITY OR TOWN: Not Applicable | 16C. COUNTY: Not Applicable | |
| 17C. UTM NORTHING (KM): Not Applicable | 18C. UTM EASTING (KM): Not Applicable | 19C. UTM ZONE: Not Applicable |
| 20. PROVIDE THE DATE OF ANTICIPATED INSTALLATION OR CHANGE: <u>09 / 30 / 15</u> – IF THIS IS AN AFTER-THE-FACT PERMIT APPLICATION, PROVIDE THE DATE UPON WHICH THE PROPOSED CHANGE DID HAPPEN: Not Applicable | | 21. DATE OF ANTICIPATED START- UP IF REGISTRATION IS GRANTED: 09/2015 |

22. PROVIDE MAXIMUM PROJECTED **OPERATING SCHEDULE** OF ACTIVITY/ ACTIVITIES OUTLINED IN THIS APPLICATION:

HOURS PER DAY 24 DAYS PER WEEK 7 WEEKS PER YEAR 52 PERCENTAGE OF OPERATION 100%

SECTION III. ATTACHMENTS AND SUPPORTING DOCUMENTS

PLEASE CHECK ALL ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

Please See the appropriate reference document for an explanation of the attachments listed below.

- ✓ ATTACHMENT A : CURRENT BUSINESS CERTIFICATE
- ✓ ATTACHMENT B: PROCESS DESCRIPTION
- ~~☐ ATTACHMENT C: DESCRIPTION OF FUGITIVE EMISSIONS~~
- ✓ ATTACHMENT D: PROCESS FLOW DIAGRAM
- ✓ ATTACHMENT E: PLOT PLAN
- ✓ ATTACHMENT F: AREA MAP
- ✓ ATTACHMENT G: AFFECTED SOURCE SHEETS
- ~~☐ ATTACHMENT H: BAGHOUSE AIR POLLUTION CONTROL DEVICE SHEET~~
- ✓ ATTACHMENT I: EMISSIONS CALCULATIONS
- ✓ ATTACHMENT J: CLASS I LEGAL ADVERTISEMENT
- ✓ ATTACHMENT K: ELECTRONIC SUBMITTAL DISKETTE
- ✓ CERTIFICATION OF INFORMATION
- ✓ ATTACHMENT L: GENERAL PERMIT REGISTRATION APPLICATION FEE
- ~~☐ ATTACHMENT M: SITING CRITERIA WAIVER~~

PLEASE MAIL AN ORIGINAL AND TWO COPIES OF THE COMPLETE GENERAL PERMIT REGISTRATION APPLICATION WITH THE SIGNATURE(S) TO THE DAQ PERMITTING SECTION AT THE ADDRESS SHOWN ON THE FRONT PAGE. PLEASE DO NOT FAX PERMIT APPLICATIONS. FOR QUESTIONS REGARDING APPLICATIONS OR WEST VIRGINIA AIR POLLUTION RULES AND REGULATIONS PLEASE CALL (304) 926-0475.

Attachment A

Current Business Certificate

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

ISSUED TO:
**CARALINE ENERGY COMPANY
2034 MARTINS BRANCH RD
CHARLESTON, WV 25312-9473**

BUSINESS REGISTRATION ACCOUNT NUMBER: **1009-4591**

This certificate is issued on: **06/24/2011**

*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

Process Description

Attachment B – Process Description

Pipeline quality natural gas is filtered and then compressed via one 346-brake horsepower (BHP) compressor (CE-2, Ajax DPC-360 LE). The compressor is natural gas-fired and associated emissions are released from the engine as a result of the combustion (CE-2).

Following compression, triethylene glycol is used to absorb water from the “wet” gas exiting the compressor. The glycol dehydration system consists of a glycol contactor and glycol regeneration or reconcentration components (RBV-1/RSV-1, Exterran 486824025 and 488712511). Lean glycol is brought into contact with the “wet” gas in the glycol contactor (tower) to remove moisture. The “dry” natural gas exits the glycol contactor at the top and the rich glycol exits the bottom and is routed to the glycol reconcentration system.

The rich glycol is fed to the glycol regenerator (RSV-1), consisting of an overhead condenser and reboiler (RBV-1), where the glycol is thermally regenerated to remove absorbed water. The reboiler is natural gas-fired and associated emissions resulting from the combustion are therefore generated (RBV-1). Emissions are also generated as a result of heating the glycol during reconcentration (RSV-1). All associated emissions have been estimated and are detailed on the attached Affected Source Sheets (see Attachment G) and in the Emission Calculations (see Attachment I).

Attachment C

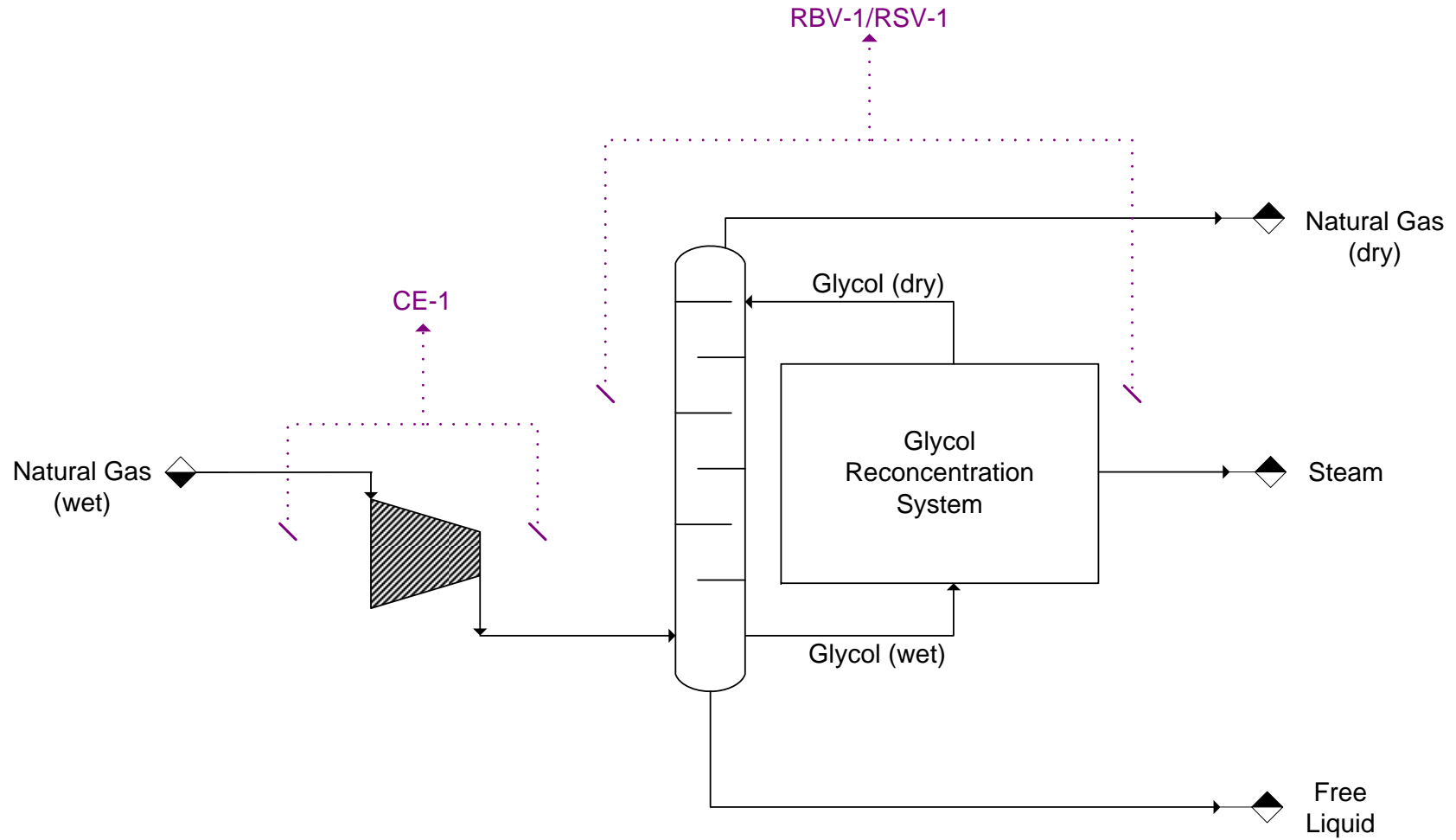
Description of Fugitive Emissions
(Not Applicable, therefore not included)

Attachment D

Process Flow Diagram

Process Units

CE-1 346 bhp Compressor (AJAX DPC-360 LE)
 RBV-1/RSV-1 Glycol Dehydration Unit (Exterran 486824025)



10541 Teays Valley Road
 Scott Depot, WV 25560
 304.755.0721

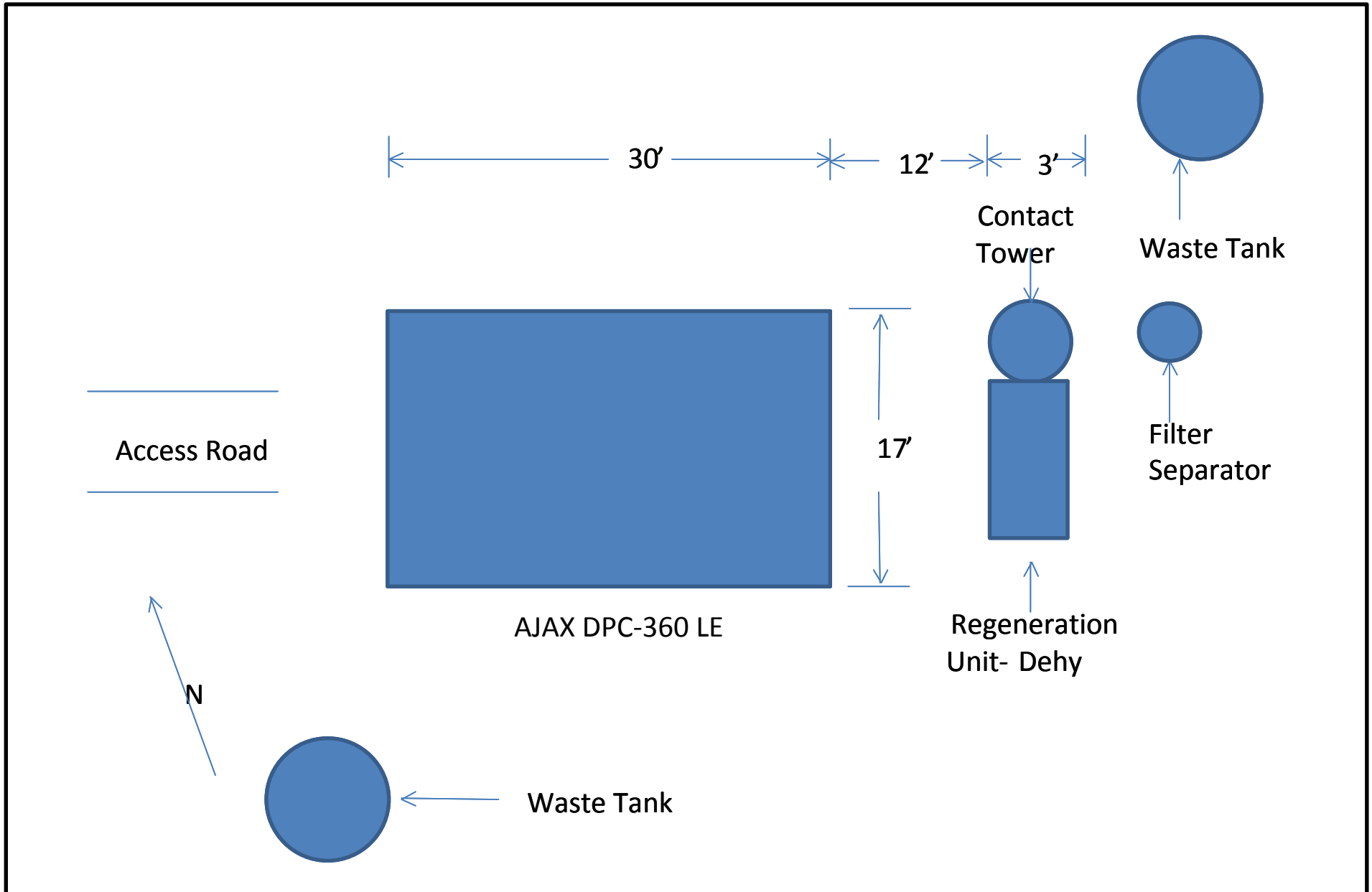
PROCESS FLOW DIAGRAM
Main Line Compressor Site
 Caraline Energy Company, Inc.
 Stats Mills, Jackson County, West Virginia

Drawn by: SSW
 Checked by:
 Drawing not to scale.

Figure No.
 Attach. D

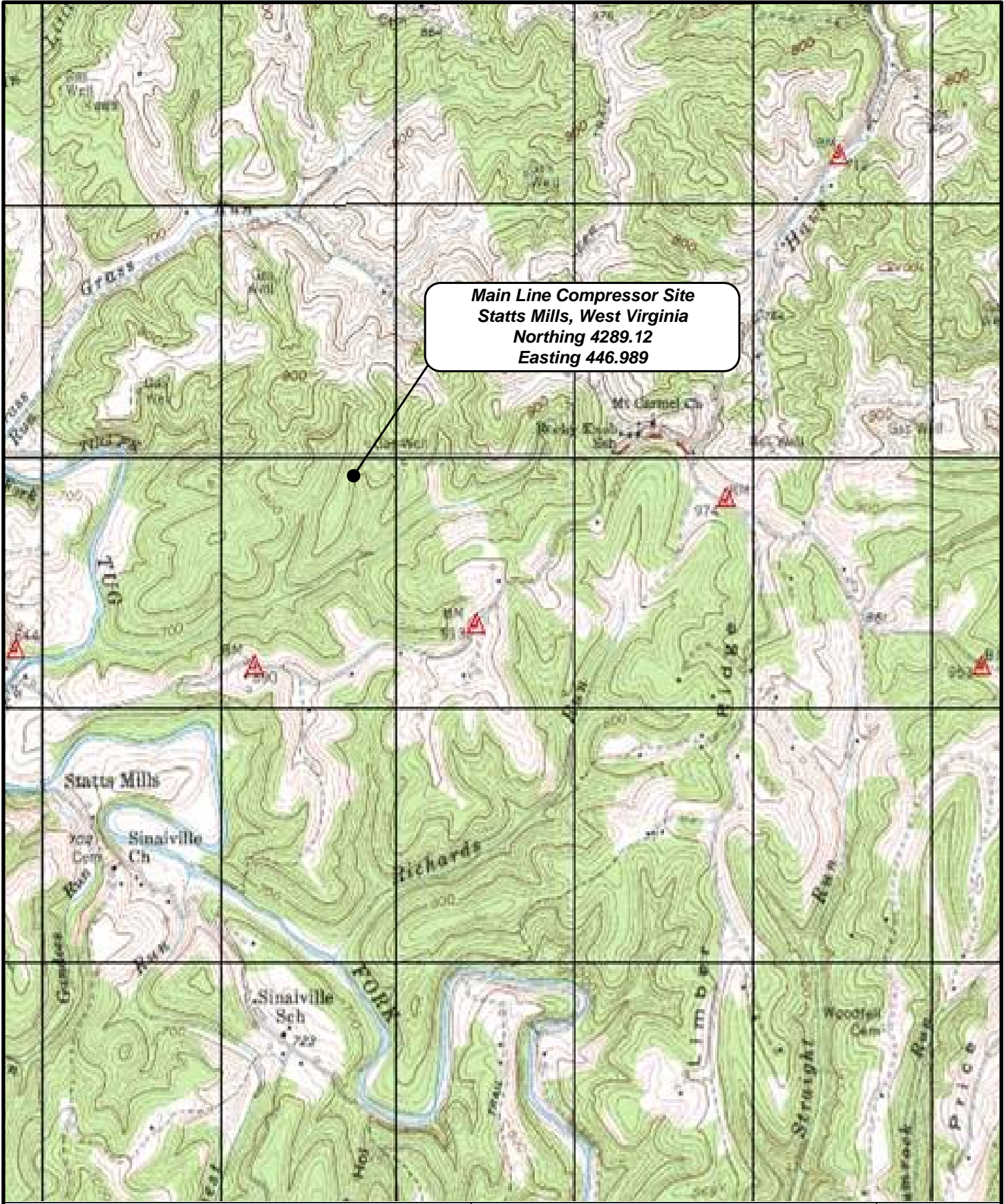
Attachment E

Plot Plan



Attachment F

Area Map



Main Line Compressor Site
Statts Mills, West Virginia
Northing 4289.12
Easting 446.989

TRIAD
Triad Engineering, Inc.

10541 Teays Valley Road
Scott Depot, WV 25560
304.755.0721

AREA MAP
Main Line Compressor Site
Caraline Energy Company, Inc.
Statts Mills, Jackson County, West Virginia

Attach.

F

Attachment G

Affected Source Sheets

General Permit G35-A Registration Section Applicability Form

General Permit G35-A was developed to allow qualified registrants to seek registration for a variety of sources. These sources include internal combustion engines, boilers, reboilers, line heaters, tanks, emergency generators, dehydration units not subject to MACT standards, dehydration units not subject to MACT standards and being controlled by a flare control device, dehydration units not subject to MACT standards and being controlled by recycling the dehydration unit back to flame zone of reboiler, dehydration units not subject to MACT standards being controlled by a thermal oxidizer, and permit exemptions including the less than 1 ton/year benzene exemption, the 40CFR63 Subpart HH - Annual Average Flow of Gas Exemption (3 mmscf/day), and the 40CFR63 Subpart HHH - Annual Average Flow of Gas Exemption (10 mmscf/day). All registered facilities will be subject to Sections 1.0, 1.1, 2.0, 3.0, and 4.0.

General Permit G35-A allows the registrant to choose which sections of the permit that they wish to seek registration under. Therefore, please mark which sections that you are applying for registration under. Please keep in mind, that if this registration is approved, the issued registration will state which sections will apply to your affected facility.

| | | |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Section 5 | Reciprocating Internal Combustion Engines (R.I.C.E.)* | <input checked="" type="checkbox"/> |
| Section 6 | Boilers, Reboilers, and Line Heaters | <input type="checkbox"/> |
| Section 7 | Tanks | <input checked="" type="checkbox"/> |
| Section 8 | Emergency Generators | <input type="checkbox"/> |
| Section 9 | Dehydration Units Not Subject to MACT Standards | <input checked="" type="checkbox"/> |
| Section 10 | Dehydration Units Not Subject to MACT Standards and being controlled by a flare control device | <input type="checkbox"/> |
| Section 11 | Dehydration Units Not Subject to MACT Standards being controlled by recycling the dehydration unit back to the flame zone of the reboiler | <input type="checkbox"/> |
| Section 12 | Dehydration Units Not Subject to MACT Standards and being controlled by a thermal oxidizer | <input type="checkbox"/> |
| Section 13 | Permit Exemption (Less than 1 ton/year of benzene exemption) | <input type="checkbox"/> |
| Section 14 | Permit Exemption (40CFR63 Subpart HH – Annual average flow of gas exemption (3 mmscf/day)) | <input type="checkbox"/> |
| Section 15 | Permit Exemption (40CFR63 Subpart HHH – Annual average flow of gas exemption (10 mmscf/day)) | <input type="checkbox"/> |
| Section 16 | Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (40CFR60 Subpart JJJJ) | <input type="checkbox"/> |

*** Affected facilities that are subject to Section 5 may also be subject to Section 16. Therefore, if the applicant is seeking registration under both sections, please select both.**

NATURAL GAS COMPRESSOR/GENERATOR ENGINE DATA SHEET

| | | | | | |
|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-----------------|----------|--------------|----|
| Source Identification Number ¹ | | CE-2 | | | |
| Engine Manufacturer and Model | | AJAX DPC-360 LE | | | |
| Manufacturer's Rated bhp/rpm | | 346/400 | | | |
| Source Status ² | | ES | | | |
| Date Installed/Modified/Removed ³ | | 09/2015 | | | |
| Engine Manufactured/Reconstruction Date ⁴ | | 1985 | | | |
| Is this a Certified Stationary Spark Ignition Engine according to 40CF R60 Subpart JJJJ? (Yes or No) ⁵ | | No | | | |
| Engine, Fuel and Combustion Data | Engine Type ⁶ | LB2S | | | |
| | APCD Type ⁷ | None | | | |
| | Fuel Type ⁸ | PQ | | | |
| | H ₂ S (gr/100 scf) | Unknown | | | |
| | Operating bhp/rpm | 346/400 | | | |
| | BSFC (Btu/bhp-hr) | 7,900 | | | |
| | Fuel throughput (ft ³ /hr) | 3,000 | | | |
| | Fuel throughput (MMft ³ /yr) | 26.46 | | | |
| | Operation (hrs/yr) | 8,760 | | | |
| Reference ⁹ | Potential Emissions ¹⁰ | lbs/hr tons/ | yr | lbs/hr tons/ | yr |
| MD | NO _x | 1.53E+00 | 6.70E+00 | | |
| MD | CO | 8.39E-01 | 3.67E+00 | | |
| MD | VOC | 3.81E-01 | 1.67E+00 | | |
| AP | SO ₂ | 1.61E-03 | 7.04E-03 | | |
| AP | PM ₁₀ | 2.11E-04 | 9.23E-04 | | |
| MD | Formaldehyde | 4.58E-01 | 2.00E+00 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

1. Enter the appropriate Source Identification Number for each natural gas-fueled reciprocating internal combustion compressor/generator engine located at the compressor station. Multiple compressor engines should be designated CE-1, CE-2, CE-3 etc. Generator engines should be designated GE-1, GE-2, GE-3 etc. If more than three (3) engines exist, please use additional sheets.

2. Enter the Source Status using the following codes:

| | | | |
|----|-------------------------------------------|----|-------------------|
| NS | Construction of New Source (installation) | ES | Existing Source |
| MS | Modification of Existing Source | RS | Removal of Source |

3. Enter the date (or anticipated date) of the engine's installation (construction of source), modification or removal.
4. Enter the date that the engine was manufactured, modified or reconstructed.
5. Is the engine a certified stationary spark ignition internal combustion engine according to 40CFR60 Subpart JJJ. If so, the engine and control device must be operated and maintained in accordance with the manufacturer's emission-related written instructions. You must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required. If the certified engine is not operated and maintained in accordance with the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine and you must demonstrate compliance according to 40CFR§60.4243a(2)(i) through (iii), as appropriate.

Provide a manufacturer's data sheet for all engines being registered.

6. Enter the Engine Type designation(s) using the following codes:

| | | | |
|------|-----------------------|------|-----------------------|
| LB2S | Lean Burn Two Stroke | RB4S | Rich Burn Four Stroke |
| LB4S | Lean Burn Four Stroke | | |

7. Enter the Air Pollution Control Device (APCD) type designation(s) using the following codes:

| | | | |
|------|-----------------------------------------------|------|-------------------------------------------|
| A/F | Air/Fuel Ratio | IR | Ignition Retard |
| HEIS | High Energy Ignition System | SIPC | Screw-in Precombustion Chambers |
| PSC | Prestratified Charge | LEC | Low Emission Combustion |
| NSCR | Rich Burn & Non-Selective Catalytic Reduction | SCR | Lean Burn & Selective Catalytic Reduction |

8. Enter the Fuel Type using the following codes:

| | | | |
|----|-------------------------------|----|-----------------|
| PQ | Pipe line Quality Natural Gas | RG | Raw Natural Gas |
|----|-------------------------------|----|-----------------|

9. Enter the Potential Emissions Data Reference designation using the following codes. Attach all referenced data to this *Compressor/Generator Data Sheet(s)*.

| | | | |
|----|---------------------------|----|---------------------------|
| MD | Manufacturer's Data | AP | AP-42 |
| GR | GRI-HAPCalc TM | OT | Other _____ (please list) |

10. Enter each engine's Potential to Emit (PTE) for the listed regulated pollutants in pounds per hour and tons per year. PTE shall be calculated at manufacturer's rated brake horsepower and may reflect reduction efficiencies of listed Air Pollution Control Devices. Emergency generator engines may use 500 hours of operation when calculating PTE. PTE data from this data sheet shall be incorporated in the *Emissions Summary Sheet*.

NATURAL GAS FIRED BOILER/LINE HEATER DATA SHEET

| Source ID # ¹ | Status ² | Design Heat Input (mmBtu/hr) ³ | Hours of Operation (hrs/yr) ⁴ | Fuel Heating Value (Btu/scf) ⁵ | |
|--------------------------|---------------------|-------------------------------------------|------------------------------------------|-------------------------------------------|--|
| BLR-1 | EXIST | 125 | 8,760 | 905 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

1. Enter the appropriate Source Identification Numbers (Source ID #) for each boiler or line heater located at the compressor station. Boilers should be designated BLR-1, BLR-2, BLR-3, etc. Heaters or Line Heaters should be designated HTR-1, HTR-2, HTR-3, etc. Enter glycol dehydration unit Reboiler Vent data on the *Glycol Dehydration Unit Data Sheet*.
2. Enter the Status for each boiler or line heater using the following:

| | | |
|--------------------------|-----|-------------------------------|
| EXIST Existing Equipment | NEW | Installation of New Equipment |
| REM Equipment Removed | | |
3. Enter boiler or line heater design heat input in mmBtu/hr.
4. Enter the annual hours of operation in hours/year for each boiler or line heater.
5. Enter the fuel heating value in Btu/standard cubic foot.

STORAGE TANK DATA SHEET

| Source ID # ¹ | Status ² | Content ³ Volume | e ⁴ Dia | T ⁵ | Throughput ⁶ | Orientation ⁷ | Liquid Height ⁸ |
|--------------------------|---------------------|-----------------------------|--------------------|----------------|-------------------------|--------------------------|----------------------------|
| T01 | EXIST | Wastewater | 2,100 | 8 | Unknown | VERT | VARIES |
| T02 | EXIST | Wastewater | 2,100 | 8 | Unknown | VERT | VARIES |
| T03 | EXIST | Dehy Condens. | 1,260 | 6 | 15,330 | VERT | 5 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

1. Enter the appropriate Source Identification Numbers (Source ID #) for each storage tank located at the compressor station. Tanks should be designated T01, T02, T03, etc.
2. Enter storage tank Status using the following:

| | | |
|--------------------------|-----|-------------------------------|
| EXIST Existing Equipment | NEW | Installation of New Equipment |
| REM Equipment Removed | | |
3. Enter storage tank content such as condensate, pipeline liquids, glycol (DEG or TEG), lube oil, etc.
4. Enter storage tank volume in gallons.
5. Enter storage tank diameter in feet.
6. Enter storage tank throughput in gallons per year.
7. Enter storage tank orientation using the following:

| | | |
|--------------------|-----|-------------------|
| VERT Vertical Tank | HOR | Z Horizontal Tank |
|--------------------|-----|-------------------|
8. Enter storage tank average liquid height in feet.

NATURAL GAS GLYCOL DEHYDRATION UNIT DATA SHEET

| | | | | | |
|--------------------------------------|-------------------------------|----------------------------------------------|----------------------------------|--------------------|----------|
| General Glycol Dehydration Unit Data | | Manufacturer and Model | | Exterran 486824025 | |
| | | Max Dry Gas Flow Rate (mmscf/day) | | 3.2 | |
| | | Design Heat Input (mmBtu/hr) | | 125 | |
| | | Design Type (DEG or TEG) | | TEG | |
| | | Source Status ² | | ES | |
| | | Date Installed/Modified/Removed ³ | | November 2010 | |
| | | Regenerator Still Vent APCD ⁴ | | NA | |
| | | Fuel HV (Btu/scf) | | 905 | |
| | | H ₂ S Content (gr/100 scf) | | Unknown | |
| | | Operation (hrs/yr) | | 8,760 | |
| Source ID # ¹ | Vent | Reference ⁵ | Potential Emissions ⁶ | lbs/hr | tons/yr |
| RBV-1 | Reboiler Vent | AP NO | x | 3.87E-02 | 1.69E-01 |
| | | AP CO | | 1.16E-02 | 5.08E-02 |
| | | AP VOC | | 7.60E-04 | 3.33E-03 |
| | | AP SO | 2 | 8.29E-05 | 3.63E-04 |
| | | AP PM | 10 | 1.05E-03 | 4.60E-03 |
| RSV-1 | Glycol Regenerator Still Vent | GRI-GLYCalc™ | VOC | 1.28E+00 | 3.14E+01 |
| | | GRI-GLYCalc™ | Benzene | 1.50E-03 | 2.11E-02 |
| | | GRI-GLYCalc™ | Ethylbenzene | 1.00E-04 | 4.94E-02 |
| | | GRI-GLYCalc™ | Toluene | 2.20E-03 | 2.92E-02 |
| | | GRI-GLYCalc™ | Xylenes | 1.30E-03 | 1.35E-01 |
| | | GRI-GLYCalc™ | n-Hexane | 2.14E-02 | 6.67E+00 |

1. Enter the appropriate Source Identification Numbers for the glycol dehydration unit Reboiler Vent and glycol Regenerator Still Vent. The glycol dehydration unit Reboiler Vent and glycol Regenerator Still Vent should be designated RBV-1 and RSV-1, respectively. If the compressor station incorporates multiple glycol dehydration units, a *Glycol Dehydration Unit Data Sheet* shall be completed for each, using Source Identification #s RBV-2 and RSV-2, RBV-3 and RSV-3, etc.

2. Enter the Source Status using the following codes:

| | | |
|------------------------------------|----------------------|--|
| NS Construction of New Source | ES Existing Source | |
| MS Modification of Existing Source | RS Removal of Source | |

3. Enter the date (or anticipated date) of the glycol dehydration unit's installation (construction of source), modification or removal.

4. Enter the Air Pollution Control Device (APCD) type designation using the following codes:

| | | | |
|----|------------------|----|----------------------------------|
| NA | None | CD | Condenser |
| FL | Flare | CC | Condenser/Combustion Combination |
| TO | Thermal Oxidizer | | |

5. Enter the Potential Emissions Data Reference designation using the following codes:

| | | | |
|----|---------------------|----|--------------------------|
| MD | Manufacturer's Data | AP | AP-42 |
| GR | GRI-GLYCalc™ | OT | Other _____(please list) |

6. Enter the Re boiler Vent and glycol Regenerator Still Vent Potential to Emit (PTE) for the listed regulated pollutants in lbs per hour and tons per year. The glycol Regenerator Still Vent potential emissions may be determined using the most recent version of the thermodynamic software model GRI-GLYCalc™ (Radian International LLC & Gas Research Institute). Attach all referenced Potential Emissions Data (or calculations) and the GRI-GLYCalc *Aggregate Calculations Report* to this *Glycol Dehydration Unit Data Sheet(s)*. This PTE data shall be incorporated in the *Emissions Summary Sheet*.

Include a copy of the GRI-GLYCalc™ analysis. This includes a printout of the aggregate calculations report, which shall include emissions reports, equipment reports, and stream reports.

***An explanation of input parameters and examples, when using GRI-GLYCalc™ is available on our website.**

West Virginia Department of Environmental Protection

DIVISION OF AIR QUALITY : (304) 926-0475
 WEB PAGE: http://www.wvdep.org

Division of Air Quality

40 CFR Part 63; Subpart HH & HHH Registration Form

Complete this form for any oil and natural gas production or natural gas transmission and storage facility that uses an affected unit under HH/HHH, whether subject or not.

| Section A: Facility Description | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------|
| Affected facility actual annual average natural gas throughput (scf/day): 3.0E+06 | | |
| Affected facility actual annual average hydrocarbon liquid throughput: (bbl/day): None | | |
| The affected facility processes, upgrades, or stores hydrocarbon liquids prior to custody transfer. | Yes | <input type="radio"/> Yes <input checked="" type="radio"/> No |
| The affected facility processes, upgrades, or stores natural gas prior to the point at which natural gas (NG) enters the NG transmission and storage source category or is delivered to the end user. | Yes | <input type="radio"/> Yes <input checked="" type="radio"/> No |
| The affected facility is: <input type="checkbox"/> prior to a NG processing plant <input type="checkbox"/> a NG processing plant <input checked="" type="checkbox"/> prior to the point of custody transfer and there is no NG processing plant | | |
| The affected facility transports or stores natural gas prior to entering the pipeline to a local distribution company or to a final end user (if there is no local distribution company). | Yes | <input type="radio"/> Yes <input checked="" type="radio"/> No |
| The affected facility exclusively processes, stores, or transfers black oil. | Yes | <input type="radio"/> Yes <input checked="" type="radio"/> No |
| Initial producing gas-to-oil ratio (GOR): _____ scf/bbl API gravity: _____ degrees | | |
| Section B: Dehydration Unit (if applicable) ¹ | | |
| Description: Exterran 486824025 | | |
| Date of Installation: 11/2010 | Annual Operating Hours: 8,760 | Burner rating (MMbtu/hr): 125 |
| Exhaust Stack Height (ft): 25.0 | Stack Diameter (ft): 2.0 | Stack Temp. (°F): 120.0 |
| Glycol Type: <input checked="" type="checkbox"/> TEG <input type="checkbox"/> EG <input type="checkbox"/> Other: | | |
| Glycol Pump Type: <input type="checkbox"/> Electric <input checked="" type="checkbox"/> Gas If gas, what is the volume ratio? 0.130 ACFM/gpm | | |
| Condenser installed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Exit Temp. _____ °F Condenser Pressure _____ psig | | |
| Incinerator/flare installed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Destruction Eff. _____ % | | |
| Other controls installed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Describe: | | |
| Wet Gas ² : Gas Temp.: 110 °F Gas Pressure 100 psig (Upstream of Contact Tower) Saturated Gas? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If no, water content 58 lb/MMSCF | | |
| Dry Gas: Gas Flowrate(MMSCFD) Actual 3.2 Design 3.2 (Downstream of Contact Tower) Water Content 7.0 lb/MMSCF | | |
| Lean Glycol: Circulation rate (gpm) Actual ³ 6.0 Maximum ⁴ 6.0 Pump make/model: 5015SC kimray | | |
| Glycol Flash Tank (if applicable): Temp.: _____ °F Pressure _____ psig Vented? Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable If no, describe vapor control: | | |
| Stripping Gas (if applicable): Source of gas: Dry Gas Rate 0.20 scfm | | |

Please attach the following required dehydration unit information:

1. System map indicating the chain of custody information. See Page 43 of this document for an example of a gas flow schematic. It is not intended that the applicant provide this level of detail for all sources. The level of detail that is necessary is to establish where the custody transfer points are located. This can be accomplished by submitting a process flow diagram indicating custody transfer points and the natural gas flow. However, the DAQ reserves the right to request more detailed information in order to make the necessary decisions.
2. Extended gas analysis from the Wet Gas Stream including mole percents of C₁-C₈, benzene, ethylbenzene, toluene, xylene and n-Hexane, using Gas Processors Association (GPA) 2286 (or similar). A sample should be taken from the inlet gas line, downstream from any inlet separator, and using a manifold to remove entrained liquids from the sample and a probe to collect the sample from the center of the gas line. GPA standard 2166 reference method or a modified version of EPA Method TO-14, (or similar) should be used.
3. GRI-GLYCalc Ver. 3.0 aggregate report based on maximum Lean Glycol circulation rate and maximum throughput.
4. Detailed calculations of gas or hydrocarbon flow rate.

Section C: Facility NESHAPS Subpart HH/HHH status

| | | |
|-------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <input type="checkbox"/> | Subject to Subpart HH |
| Affected facility | <input type="checkbox"/> | Subject to Subpart HHH |
| status: | <input checked="" type="checkbox"/> | Not Subject |
| (choose only one) | because: | <input checked="" type="checkbox"/> < 10/25 TPY <input type="checkbox"/> Affected facility exclusively handles black oil <input type="checkbox"/> The facility wide actual annual average NG throughput is < 650 thousand scf/day and facility wide actual annual average hydrocarbon liquid is < 250 bpd <input type="checkbox"/> No affected source is present |

COMPRESSOR STATION EMISSION SUMMARY SHEET FOR CRITERIA POLLUTANTS

| Compressor Station | | | | | | Registration Number <small>(Agency Use)</small> <u>G35-A</u> | | | | |
|--------------------|------------------------------|----------|----------|-----------------|------------------|--------------------------------------------------------------|----------|----------|-----------------|------------------|
| | Potential Emissions (lbs/hr) | | | | | Potential Emissions (tons/yr) | | | | |
| Source ID No. | NO _x | CO | VOC | SO ₂ | PM ₁₀ | NO _x | CO | VOC | SO ₂ | PM ₁₀ |
| CE-2 | 1.53E+00 | 8.39E-01 | 3.81E-01 | 1.61E-03 | 2.11E-04 | 6.70E+00 | 3.67E+00 | 1.67E+00 | 7.04E-03 | 9.23E-04 |
| RBV-1 | 3.87E-02 | 1.16E-02 | 7.60E-04 | 8.29E-05 | 1.05E-03 | 1.69E-01 | 5.08E-02 | 3.33E-03 | 3.63E-04 | 4.60E-03 |
| RSV-1 | NA | NA | 1.28E+00 | NA | NA | NA | NA | 3.14E+01 | NA | NA |
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| | | | | | | | | | | |
| Total | 1.57E+00 | 8.51E-01 | 1.67E+00 | 1.69E-03 | 1.26E-03 | 6.87E+00 | 3.73E+00 | 7.30E+00 | 7.40E-03 | 5.52E-03 |

COMPRESSOR STATION EMISSION SUMMARY SHEET FOR HAZARDOUS/TOXIC POLLUTANTS

| Compressor Station | | | | | | | Registration Number <small>(Agency Use)</small> G35-A | | | | | |
|--------------------|------------------------------|---------------|----------|----------|----------|--------------|--------------------------------------------------------------|---------------|----------|----------|----------|--------------|
| | Potential Emissions (lbs/hr) | | | | | | Potential Emissions (tons/yr) | | | | | |
| Source ID No. | Benzene | Ethyl-benzene | Toluene | Xylenes | n-Hexane | Formaldehyde | Benzene | Ethyl-benzene | Toluene | Xylenes | n-Hexane | Formaldehyde |
| CE-2 | NA | NA | NA | NA | NA | 4.58E-01 | NA | NA | NA | NA | NA | 2.00E+00 |
| RBV-1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| RSV-1 | 1.50E-03 | 1.00E-04 | 2.20E-03 | 1.30E-03 | 2.14E-02 | NA | 2.11E-02 | 4.94E-02 | 2.92E-02 | 1.35E-01 | 6.67E+00 | NA |
| | | | | | | | | | | | | |
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| | | | | | | | | | | | | |
| Total | 1.50E-03 | 1.00E-04 | 2.20E-03 | 1.30E-03 | 2.14E-02 | 4.58E-01 | 2.11E-02 | 4.94E-02 | 2.92E-02 | 1.35E-01 | 6.67E+00 | 2.00E+00 |

Attachment H

Baghouse Air Pollution Control Device Sheet
(Not applicable, therefore not included)

Attachment I

Emissions Calculations

Attachment I - Current Emissions Calculations

Main Line Compressor Site
 Caraline Energy Company, Inc.
 Statts Mills, Jackson County, West Virginia

CURRENT COMPRESSOR ENGINE EMISSIONS

Source Identification No.: CE-1
Engine Type Caterpillar G3412C LE
Rating 637 bhp
Fuel Consumption 7458 BTU/bhp-hr @ 100% load
Fuel LHV 905 BTU/scf
Operating Hours 8760 hrs/yr
Fuel Consumption (calcs.) 0.0052 mmscf/hr
 45.99 mmscf/yr

| Pollutant | Emission Factors | | | | Emissions | | |
|-------------------|------------------|----------|----------|--------------|-----------|----------|----------|
| | Factor | Units | lb/mmscf | Source | lb/hr | lb/yr | tpy |
| NO _x | 2.81E+00 | lb/hr | -- | Manufacturer | 2.81E+00 | 2.46E+04 | 1.23E+01 |
| CO | 2.02E+00 | lb/hr | -- | Manufacturer | 2.02E+00 | 1.77E+04 | 8.86E+00 |
| NMHC | 4.49E-01 | lb/hr | -- | Manufacturer | 4.49E-01 | 3.94E+03 | 1.97E+00 |
| VOC | 1.18E-01 | lb/mmbtu | 1.07E+02 | AP-42 | 5.61E-01 | 4.91E+03 | 2.46E+00 |
| SO ₂ | 5.88E-04 | lb/mmbtu | 5.32E-01 | AP-42 | 2.79E-03 | 2.45E+01 | 1.22E-02 |
| PM ₁₀ | 7.71E-05 | lb/mmbtu | 6.98E-02 | AP-42 | 3.66E-04 | 3.21E+00 | 1.60E-03 |
| CH ₂ O | 3.79E-01 | lb/hr | -- | Manufacturer | 3.79E-01 | 3.32E+03 | 1.66E+00 |

DEHYDRATION UNIT EMISSIONS

Source Identification No.: RBV-1
Fuel Consumption 125 MBTU/hr
Fuel LHV 905 BTU/scf
Operating Hours 8760 hrs/yr
Fuel Consumption (calcs.) 0.0001 mmscf/hr
 1.21 mmscf/yr

| Pollutant | Emission Factors | | | | Emissions | | |
|------------------|------------------|----------|----------|--------|-----------|----------|----------|
| | Factor | Units | lb/mmscf | Source | lb/hr | lb/yr | tpy |
| NO _x | 2.80E+02 | lb/mmscf | 2.80E+02 | AP-42 | 3.87E-02 | 3.39E+02 | 1.69E-01 |
| CO | 8.40E+01 | lb/mmscf | 8.40E+01 | AP-42 | 1.16E-02 | 1.02E+02 | 5.08E-02 |
| VOC | 5.50E+00 | lb/mmscf | 5.50E+00 | AP-42 | 7.60E-04 | 6.65E+00 | 3.33E-03 |
| SO ₂ | 6.00E-01 | lb/mmscf | 6.00E-01 | AP-42 | 8.29E-05 | 7.26E-01 | 3.63E-04 |
| PM ₁₀ | 7.60E+00 | lb/mmscf | 7.60E+00 | AP-42 | 1.05E-03 | 9.20E+00 | 4.60E-03 |

Attachment I - Current Emissions Calculations

Main Line Compressor Site
Caraline Energy Company, Inc.
Statts Mills, Jackson County, West Virginia

DEHYDRATION UNIT EMISSIONS (continued)

Source Identification No.: RSV-1

Operating Hours 8760 hrs/yr

| Pollutant | Emissions* | | |
|--------------|------------|---------|-------|
| | lb/hr | lbs/day | tpy |
| VOCs | 7.16 | 171.94 | 31.38 |
| Benzene | 0.00 | 0.12 | 0.02 |
| Ethylbenzene | 0.01 | 0.27 | 0.05 |
| Toluene | 0.01 | 0.16 | 0.03 |
| Xylenes | 0.03 | 0.74 | 0.14 |
| n-Hexane | 1.52 | 36.54 | 6.67 |

* - All emissions obtained via GRI-GLYCalc Version 4.0 (see attached).

TOTAL CURRENT EMISSIONS

| Pollutant | Total Current Emissions | | |
|-------------------|-------------------------|----------|----------|
| | lb/hr | lbs/day | tpy |
| NO _x | 2.85E+00 | 6.83E+01 | 1.25E+01 |
| CO | 2.03E+00 | 4.88E+01 | 8.91E+00 |
| NMHC | 4.49E-01 | 1.08E+01 | 1.97E+00 |
| VOC | 7.73E+00 | 1.85E+02 | 3.38E+01 |
| SO ₂ | 2.88E-03 | 6.90E-02 | 1.26E-02 |
| PM ₁₀ | 1.42E-03 | 3.40E-02 | 6.20E-03 |
| CH ₂ O | 3.79E-01 | 9.10E+00 | 1.66E+00 |

Attachment I - Current Emissions Calculations - Greenhouse Gases

Main Line Compressor Site
Caraline Energy Company, Inc.
Statts Mills, Jackson County, West Virginia

CURRENT COMPRESSOR ENGINE GREENHOUSE GAS EMISSIONS

Source Identification No.: CE-1

Engine Type Caterpillar G3412C LE

Rating 637 bhp

Fuel Consumption 7458 BTU/bhp-hr @ 100% load

Fuel LHV 905 BTU/scf

Operating Hours 8760 hrs/yr

Fuel Consumption (calcs.) 0.0052 mmscf/hr
45.99 mmscf/yr

Energy Consumption (calcs.) 4.7507 mmBTU/hr
41,616.53 mmBTU/yr

| Pollutant | Emission Factors | | | Emissions | | |
|------------------------|------------------|----------|----------|-----------------|-----------------|-----------------|
| | Factor | Units | lb/mmscf | lb/hr | lb/yr | tpy |
| CO ₂ | -- | -- | -- | 5.56E+02 | 4.87E+06 | 2.43E+03 |
| CH ₄ | 2.20E-03 | lb/mmbtu | 1.99E+00 | 1.05E-02 | 9.16E+01 | 4.58E-02 |
| N ₂ O | 2.20E-04 | lb/mmbtu | 1.99E-01 | 1.05E-03 | 9.16E+00 | 4.58E-03 |
| CO₂e | | | | 5.57E+02 | 4.87E+06 | 2.43E+03 |

REBOILER GREENHOUSE GAS EMISSIONS

Source Identification No.: RBV-1

Fuel Consumption 125 MBTU/hr

Fuel LHV 905 BTU/scf

Operating Hours 8760 hrs/yr

Fuel Consumption (calcs.) 0.0001 mmscf/hr
1.21 mmscf/yr

Energy Consumption (calcs.) 0.1131 mmBTU/hr
990.98 mmBTU/yr

| Pollutant | Emission Factors | | | Emissions | | |
|------------------------|------------------|----------|----------|-----------------|-----------------|-----------------|
| | Factor | Units | lb/mmscf | lb/hr | lb/yr | tpy |
| CO ₂ | -- | -- | -- | 1.46E+01 | 1.28E+05 | 6.40E+01 |
| CH ₄ | 2.20E-03 | lb/mmbtu | 1.99E+00 | 2.49E-04 | 2.18E+00 | 1.09E-03 |
| N ₂ O | 2.20E-04 | lb/mmbtu | 1.99E-01 | 2.75E-05 | 2.41E-01 | 1.20E-04 |
| CO₂e | | | | 1.46E+02 | 1.28E+05 | 6.41E+01 |

Attachment I - Current Emissions Calculations - Greenhouse Gases

Main Line Compressor Site
Caraline Energy Company, Inc.
Statts Mills, Jackson County, West Virginia

TOTAL GREENHOUSE GAS EMISSIONS

| Pollutant | Total Current Emissions | | |
|-------------------|-------------------------|----------|----------|
| | lb/hr | lbs/day | tpy |
| CO ₂ | 5.70E+02 | 1.37E+04 | 2.50E+03 |
| CH ₄ | 1.07E-02 | 2.57E-01 | 4.69E-02 |
| N ₂ O | 1.07E-03 | 2.57E-02 | 4.70E-03 |
| CO ₂ e | 7.03E+02 | 1.69E+04 | 3.08E+03 |

Sources: Greenhouse Gas Inventory Protocol-Core Module Guidance, *Fuel Analysis Approach for Estimating CO₂ Emissions*

CH₄ and N₂O emission factors provided by *Table A-1: CH₄ and N₂O Emission Factors by Fuel Type and Sector - Natural Gas, Industry*

Attachment I - Proposed Emissions Calculations

Main Line Compressor Site
Caraline Energy Company, Inc.
Statts Mills, Jackson County, West Virginia

PROPOSED COMPRESSOR ENGINE EMISSIONS

Source Identification No.: CE-2

Engine Type AJAX DPC-360 LE

Rating 346 bhp

Fuel Consumption 7900 BTU/bhp-hr @ 100% load

Fuel LHV 905 BTU/scf

Operating Hours 8760 hrs/yr

Fuel Consumption (calcs.) 0.0030 mmscf/hr
26.46 mmscf/yr

| Pollutant | Emission Factors | | | | Emissions | | |
|-------------------|------------------|----------|----------|--------------|-----------|----------|----------|
| | Factor | Units | lb/mmscf | Source | lb/hr | lb/yr | tpy |
| NO _x | 1.53E+00 | lb/hr | -- | Manufacturer | 1.53E+00 | 1.34E+04 | 6.70E+00 |
| CO | 8.39E-01 | lb/hr | -- | Manufacturer | 8.39E-01 | 7.35E+03 | 3.67E+00 |
| NMHC | 4.58E-01 | lb/hr | -- | Manufacturer | 4.58E-01 | 4.01E+03 | 2.00E+00 |
| VOC | 3.81E-01 | lb/hr | -- | Manufacturer | 3.81E-01 | 3.34E+03 | 1.67E+00 |
| SO ₂ | 5.88E-04 | lb/mmbtu | 5.32E-01 | AP-42 | 1.61E-03 | 1.41E+01 | 7.04E-03 |
| PM ₁₀ | 7.71E-05 | lb/mmbtu | 6.98E-02 | AP-42 | 2.11E-04 | 1.85E+00 | 9.23E-04 |
| CH ₂ O | 4.58E-01 | lb/hr | -- | Manufacturer | 4.58E-01 | 4.01E+03 | 2.00E+00 |

DEHYDRATION UNIT EMISSIONS

Source Identification No.: RBV-1

Fuel Consumption 125 MBTU/hr

Fuel LHV 905 BTU/scf

Operating Hours 8760 hrs/yr

Fuel Consumption (calcs.) 0.0001 mmscf/hr
1.21 mmscf/yr

| Pollutant | Emission Factors | | | | Emissions | | |
|------------------|------------------|----------|----------|--------|-----------|----------|----------|
| | Factor | Units | lb/mmscf | Source | lb/hr | lb/yr | tpy |
| NO _x | 2.80E+02 | lb/mmscf | 2.80E+02 | AP-42 | 3.87E-02 | 3.39E+02 | 1.69E-01 |
| CO | 8.40E+01 | lb/mmscf | 8.40E+01 | AP-42 | 1.16E-02 | 1.02E+02 | 5.08E-02 |
| VOC | 5.50E+00 | lb/mmscf | 5.50E+00 | AP-42 | 7.60E-04 | 6.65E+00 | 3.33E-03 |
| SO ₂ | 6.00E-01 | lb/mmscf | 6.00E-01 | AP-42 | 8.29E-05 | 7.26E-01 | 3.63E-04 |
| PM ₁₀ | 7.60E+00 | lb/mmscf | 7.60E+00 | AP-42 | 1.05E-03 | 9.20E+00 | 4.60E-03 |

Attachment I - Proposed Emissions Calculations

Main Line Compressor Site
Caraline Energy Company, Inc.
Statts Mills, Jackson County, West Virginia

DEHYDRATION UNIT EMISSIONS (continued)

Source Identification No.: RSV-1

Operating Hours 8760 hrs/yr

| Pollutant | Emissions* | | |
|--------------|------------|----------|----------|
| | lb/hr | lbs/day | tpy |
| VOCs | 1.28E+00 | 1.72E+02 | 3.14E+01 |
| Benzene | 1.50E-03 | 1.16E-01 | 2.11E-02 |
| Ethylbenzene | 1.00E-04 | 2.71E-01 | 4.94E-02 |
| Toluene | 2.20E-03 | 1.60E-01 | 2.92E-02 |
| Xylenes | 1.30E-03 | 7.42E-01 | 1.35E-01 |
| n-Hexane | 2.14E-02 | 3.65E+01 | 6.67E+00 |

* - All emissions obtained via GRI-GLYCalc Version 4.0 (see attached) using gas sample collected 02/20/15 .

TOTAL PROPOSED EMISSIONS

| Pollutant | Total Proposed Emissions | | |
|-------------------|--------------------------|----------|----------|
| | lb/hr | lbs/day | tpy |
| NO _x | 1.57E+00 | 3.76E+01 | 6.87E+00 |
| CO | 8.51E-01 | 2.04E+01 | 3.73E+00 |
| NMHC | 4.58E-01 | 1.10E+01 | 2.00E+00 |
| VOC | 1.67E+00 | 4.00E+01 | 7.30E+00 |
| SO ₂ | 1.69E-03 | 4.06E-02 | 7.40E-03 |
| PM ₁₀ | 1.26E-03 | 3.03E-02 | 5.52E-03 |
| CH ₂ O | 4.58E-01 | 1.10E+01 | 2.00E+00 |

NET PROPOSED EMISSIONS DIFFERENCE

| Pollutant | Net Proposed Emissions Difference | | |
|-------------------|-----------------------------------|-----------|-----------|
| | lb/hr | lbs/day | tpy |
| NO _x | -1.28E+00 | -3.07E+01 | -5.60E+00 |
| CO | -1.18E+00 | -2.84E+01 | -5.18E+00 |
| NMHC | 8.28E-03 | 1.99E-01 | 3.63E-02 |
| VOC | -6.06E+00 | -1.45E+02 | -2.65E+01 |
| SO ₂ | -1.19E-03 | -2.85E-02 | -5.20E-03 |
| PM ₁₀ | -1.56E-04 | -3.73E-03 | -6.81E-04 |
| CH ₂ O | 7.85E-02 | 1.88E+00 | 3.44E-01 |

Attachment I - Proposed Emissions Calculations - Greenhouse Gases

Main Line Compressor Site
Caraline Energy Company, Inc.
Statts Mills, Jackson County, West Virginia

PROPOSED COMPRESSOR ENGINE GREENHOUSE GAS EMISSIONS

| | |
|------------------------------------|---------------------------------------|
| Source Identification No.: | CE-2 |
| Engine Type | AJAX DPC-360 LE |
| Rating | 346 bhp |
| Fuel Consumption | 7900 BTU/bhp-hr @ 100% load |
| Fuel LHV | 905 BTU/scf |
| Operating Hours | 8760 hrs/yr |
| Fuel Consumption (calcs.) | 0.0030 mmscf/hr 26.46 mmscf/yr |
| Energy Consumption (calcs.) | 2.7334 mmBTU/hr 23,944.58 mmBTU/yr |

| Pollutant | Emission Factors | | | Emissions | | |
|------------------------|------------------|----------|----------|-----------------|-----------------|-----------------|
| | Factor | Units | lb/mmscf | lb/hr | lb/yr | tpy |
| CO ₂ | -- | -- | -- | 3.20E+02 | 2.80E+06 | 1.40E+03 |
| CH ₄ | 2.20E-03 | lb/mmbtu | 1.99E+00 | 6.01E-03 | 5.27E+01 | 2.63E-02 |
| N ₂ O | 2.20E-04 | lb/mmbtu | 1.99E-01 | 6.01E-04 | 5.27E+00 | 2.63E-03 |
| CO₂e | | | | 3.20E+02 | 2.80E+06 | 1.40E+03 |

REBOILER GREENHOUSE GAS EMISSIONS

| | |
|------------------------------------|------------------------------------|
| Source Identification No.: | RBV-1 |
| Fuel Consumption | 125 MBTU/hr |
| Fuel LHV | 905 BTU/scf |
| Operating Hours | 8760 hrs/yr |
| Fuel Consumption (calcs.) | 0.0001 mmscf/hr 1.21 mmscf/yr |
| Energy Consumption (calcs.) | 0.1131 mmBTU/hr 990.98 mmBTU/yr |

| Pollutant | Emission Factors | | | Emissions | | |
|------------------------|------------------|----------|----------|-----------------|-----------------|-----------------|
| | Factor | Units | lb/mmscf | lb/hr | lb/yr | tpy |
| CO ₂ | -- | -- | -- | 1.46E+01 | 1.28E+05 | 6.40E+01 |
| CH ₄ | 2.20E-03 | lb/mmbtu | 1.99E+00 | 2.49E-04 | 2.18E+00 | 1.09E-03 |
| N ₂ O | 2.20E-04 | lb/mmbtu | 1.99E-01 | 2.75E-05 | 2.41E-01 | 1.20E-04 |
| CO₂e | | | | 1.46E+02 | 1.28E+05 | 6.41E+01 |

Attachment I - Proposed Emissions Calculations - Greenhouse Gases

Main Line Compressor Site
Caraline Energy Company, Inc.
Statts Mills, Jackson County, West Virginia

TOTAL PROPOSED GREENHOUSE GAS EMISSIONS

| Pollutant | Total Proposed Emissions | | |
|-------------------|--------------------------|----------|----------|
| | lb/hr | lbs/day | tpy |
| CO ₂ | 3.34E+02 | 8.02E+03 | 1.46E+03 |
| CH ₄ | 6.26E-03 | 1.50E-01 | 2.74E-02 |
| N ₂ O | 6.29E-04 | 1.51E-02 | 2.75E-03 |
| CO ₂ e | 4.66E+02 | 1.12E+04 | 2.04E+03 |

NET PROPOSED GHG EMISSIONS DIFFERENCE

| Pollutant | Total Proposed Emissions | | |
|-------------------|--------------------------|-----------|-----------|
| | lb/hr | lbs/day | tpy |
| CO ₂ | -2.36E+02 | -5.66E+03 | -1.03E+03 |
| CH ₄ | -4.44E-03 | -1.07E-01 | -1.94E-02 |
| N ₂ O | -4.44E-04 | -1.07E-02 | -1.94E-03 |
| CO ₂ e | -2.37E+02 | -5.69E+03 | -1.04E+03 |

Sources: Greenhouse Gas Inventory Protocol-Core Module Guidance, *Fuel Analysis Approach for Estimating CO₂ Emissions*

CH₄ and N₂O emission factors provided by *Table A-1: CH₄ and N₂O Emission Factors by Fuel Type and Sector - Natural Gas, Industry*

Estimated Exhaust Emissions Based On PLQNG, 1500 FASL Elevation and an average Ambient Temperature of 65 Degrees F

For Emissions Permits, please contact Ajax for emissions data based on specific site conditions

| Ajax Engine Model | Emissions (Gm / Bhph) | | | | | BSFC | RPM | BHP | BMEP | Exhaust Stack | | | | | | No. Of Cyl's | Bore | Stroke |
|-------------------|------------------------|-----|------|-----|------|------|-----|-----|------|---------------|--------------|--------------|-------------|-------------|-----------------|--------------|-------|--------|
| | NOx | CO | NMHC | VOC | H2CO | | | | | Dia. (in.) | Height (in.) | Temp (Deg.F) | Flow (acfm) | Flow (lb/m) | Velocity (ft/m) | | | |
| EA-15 | 4.4 | 3.3 | 0.7 | 0.5 | 0.3 | 9900 | 900 | 14 | 49.6 | 4 | 31 | 500 | 140 | 5 | 1604 | 1 | 5 | 6.5 |
| EA-22 | 4.4 | 3.3 | 0.7 | 0.5 | 0.3 | 9900 | 650 | 21 | 48.5 | 5 | 64 | 500 | 200 | 8 | 1467 | 1 | 6.5 | 8 |
| EA-30 | 4.4 | 3.3 | 0.7 | 0.5 | 0.3 | 9900 | 650 | 29 | 53.1 | 5 | 80 | 500 | 250 | 10 | 1833 | 1 | 7.25 | 8 |
| C-30 | 4.4 | 3.3 | 0.7 | 0.5 | 0.3 | 9400 | 525 | 29 | 49.2 | 5 | 101 | 450 | 260 | 11 | 1907 | 1 | 7.5 | 10 |
| C-42 | 4.4 | 3.3 | 0.7 | 0.5 | 0.3 | 9900 | 525 | 40 | 53.6 | 6 | 137 | 565 | 380 | 14 | 1935 | 1 | 8.5 | 10 |
| E-42 | 4.4 | 3.3 | 0.7 | 0.5 | 0.3 | 9900 | 525 | 40 | 53.6 | 6 | 137 | 565 | 380 | 14 | 1935 | 1 | 8.5 | 10 |
| DP-60 | 4.4 | 1.7 | 0.6 | 0.5 | 0.3 | 9000 | 475 | 58 | 56.5 | 8 | 150 | 540 | 500 | 18 | 1432 | 1 | 9.5 | 12 |
| DP-80 | 4.4 | 2.8 | 0.7 | 0.5 | 0.3 | 8900 | 400 | 77 | 57.1 | 10 | 164 | 470 | 610 | 24 | 1118 | 1 | 11.0 | 14 |
| DP-81 | 6.6 | 1.1 | 0.5 | 0.5 | 0.3 | 8500 | 475 | 78 | 62.4 | 10 | 164 | 545 | 610 | 22 | 1118 | 1 | 10.5 | 12 |
| DP-115 | 4.4 | 2.4 | 0.9 | 0.6 | 0.3 | 9000 | 360 | 110 | 55.0 | 12 | 190 | 440 | 880 | 36 | 1120 | 1 | 13.25 | 16 |
| DP-125 | 5.0 | 2.7 | 0.8 | 0.6 | 0.3 | 8500 | 380 | 120 | 56.7 | 12 | 190 | 470 | 960 | 38 | 1222 | 1 | 13.25 | 16 |
| DP-160 | 4.4 | 2.8 | 0.7 | 0.5 | 0.3 | 8900 | 400 | 154 | 57.1 | 10 | 164 | 470 | 1220 | 48 | 2237 | 2 | 11 | 14 |
| DP-165 | 6.0 | 3.0 | 0.8 | 0.6 | 0.3 | 8500 | 380 | 158 | 58.4 | 13.25 | 260 | 450 | 1210 | 49 | 1264 | 1 | 15 | 16 |
| DP-230 | 4.4 | 2.4 | 0.9 | 0.6 | 0.3 | 9000 | 360 | 221 | 55.0 | 12 | 190 | 440 | 1770 | 72 | 2254 | 2 | 13.25 | 16 |
| DP-250 | 5.5 | 3.0 | 0.8 | 0.6 | 0.3 | 8500 | 380 | 240 | 56.7 | 12 | 190 | 460 | 1910 | 76 | 2432 | 2 | 13.25 | 16 |
| DP-325 | 5.5 | 1.7 | 0.8 | 0.6 | 0.3 | 8400 | 380 | 312 | 57.5 | 13.25 | 260 | 450 | 2420 | 98 | 2527 | 2 | 15 | 16 |
| DPC-60 | 4.4 | 1.7 | 0.6 | 0.5 | 0.3 | 9000 | 475 | 58 | 56.5 | 8 | 150 | 540 | 500 | 18 | 1432 | 1 | 9.5 | 12 |
| DPC-80 | 4.4 | 2.8 | 0.7 | 0.5 | 0.3 | 8900 | 400 | 77 | 57.1 | 10 | 164 | 470 | 610 | 24 | 1118 | 1 | 11 | 14 |
| DPC-81 | 6.6 | 1.1 | 0.5 | 0.5 | 0.3 | 8500 | 475 | 78 | 62.4 | 10 | 164 | 545 | 610 | 22 | 1118 | 1 | 10.5 | 12 |
| DPC-105 | 4.4 | 2.8 | 0.6 | 0.5 | 0.3 | 8800 | 425 | 101 | 59.3 | 12 | 193 | 480 | 780 | 31 | 993 | 1 | 12 | 14 |
| DPC-115 | 4.4 | 2.4 | 0.9 | 0.6 | 0.3 | 8700 | 360 | 110 | 55.0 | 12 | 190 | 440 | 870 | 36 | 1108 | 1 | 13.25 | 16 |
| DPC-115 LE | 2.0 | 2.2 | 0.7 | 0.5 | 0.3 | 8100 | 360 | 110 | 55.0 | 12 | 190 | 400 | 830 | 36 | 1057 | 1 | 13.25 | 16 |
| DPC-120 | 5.5 | 1.7 | 0.6 | 0.5 | 0.3 | 9000 | 475 | 115 | 56.5 | 8 | 150 | 540 | 1000 | 37 | 2865 | 2 | 9.5 | 12 |
| DPC-140 | 10.5 | 1.3 | 0.6 | 0.5 | 0.3 | 8200 | 400 | 134 | 60.3 | 12 | 190 | 490 | 1040 | 40 | 1324 | 1 | 13.25 | 16 |
| DPC-140 LE | 2.0 | 1.4 | 0.6 | 0.5 | 0.3 | 7800 | 400 | 134 | 60.3 | 12 | 190 | 450 | 1010 | 41 | 1286 | 1 | 13.25 | 16 |
| DPC-160 | 4.4 | 2.7 | 0.7 | 0.5 | 0.3 | 8900 | 400 | 154 | 57.1 | 10 | 164 | 470 | 1220 | 48 | 2237 | 2 | 11 | 14 |
| DPC-162 | 6.6 | 1.1 | 0.5 | 0.5 | 0.3 | 8500 | 475 | 156 | 62.4 | 10 | 164 | 545 | 1230 | 45 | 2255 | 2 | 10.5 | 12 |
| DPC-180 | 6.3 | 1.4 | 0.9 | 0.6 | 0.3 | 8400 | 400 | 173 | 60.5 | 13.25 | 256 | 460 | 1290 | 52 | 1347 | 1 | 15 | 16 |
| DPC-180 LE | 2.0 | 1.1 | 0.6 | 0.5 | 0.3 | 7900 | 400 | 173 | 60.5 | 13.25 | 256 | 555 | 1450 | 53 | 1514 | 1 | 15 | 16 |

Site Altitude = 0 - 1500 FASL Date: March 2011 NOx = Nitrogen Oxide FASL = Feet Above Sea Level
 Site Fuel Composition = Pipeline Quality Natural Gas (PLQNG) CO = Carbon Monoxide ACFM = Actual Cubic Feet Per Minute
 Ambient Temp For Defining Maximum Load = 100 Deg F H2CO = Formaldehyde BMEP = Brake Mean Effective Pressure (Psi)
 Ambient Temp For Defining Exhaust Emissions = 65 Deg F NMHC= Non-Methane Hydrocarbons reported as Propane
 VOC = Non-Methane, Non-Ethane & Non-Formaldehyde reported as Propane

The above emissions and performance data is contingent on:

- 1.) Engine must be maintained in good working order. (Btu / Bhp-hr)
- 2.) Engine modifications or upgrades from the original factory configuration must meet Ajax specifications and installation guidelines.
- 3.) Engine operating parameters must be consistent with those specified in the Ajax manual.

BSFC = Brake Specific Fuel Consumptior Gm / Bhph = Gram / Brake Horse Power-Hour

Fuel Composition (PLQNG):

| Compound | Formula | % Volume |
|------------------|---------|----------|
| Nitrogen | N2 | 0.72 |
| Carbon Dioxide | CO2 | 1.14 |
| Methane | CH4 | 92.84 |
| Ethane | C2H6 | 4.10 |
| Propane | C3H8 | 1.20 |
| Total Volume % = | | 100.00 |

For additional information, please contact Application Engineering at (405) 670-4121
 Cameron Compression Systems, 2101 SE 18th Street Oklahoma City, OK USA

Estimated Exhaust Emissions Based On PLQNG, 1500 FASL Elevation and an average Ambient Temperature of 65 Degrees F

For Emissions Permits, please contact Ajax for emissions data based on specific site conditions

| Ajax Engine Model | Emissions (Gm / Bhph) | | | | | BSFC | RPM | BHP | BMEP | Exhaust Stack | | | | | | No. Of Cyl's | Bore | Stroke |
|-------------------------|------------------------|-----|------|-----|------|------|-----|-----|------|---------------|-----------------|-----------------|----------------|----------------|--------------------|--------------------|-------|--------|
| | NOx | CO | NMHC | VOC | H2CO | | | | | Dia. (in.) | Height (in.) | Temp (Deg.F) | Flow (acfm) | Flow (lb/m) | Velocity (ft/m) | | | |
| DPC-230 | 4.4 | 2.4 | 0.9 | 0.6 | 0.3 | 8700 | 360 | 221 | 55.0 | 12 | 190 | 440 | 1730 | 71 | 2203 | 2 | 13.25 | 16 |
| DPC-230 LE | 2.0 | 2.2 | 0.7 | 0.5 | 0.3 | 8100 | 360 | 221 | 55.0 | 12 | 190 | 400 | 1670 | 72 | 2126 | 2 | 13.25 | 16 |
| DPC-280 | 11.4 | 1.3 | 0.6 | 0.5 | 0.3 | 8200 | 400 | 269 | 60.3 | 12 | 190 | 470 | 2030 | 80 | 2585 | 2 | 13.25 | 16 |
| DPC-280 LE | 2.0 | 1.4 | 0.6 | 0.5 | 0.3 | 7800 | 400 | 269 | 60.3 | 12 | 190 | 450 | 1990 | 81 | 2534 | 2 | 13.25 | 16 |
| DPC-300 | 4.1 | 1.9 | 1.0 | 0.6 | 0.3 | 8700 | 360 | 288 | 56.0 | 13.25 | 260 | 435 | 2210 | 91 | 2308 | 2 | 15 | 16 |
| DPC-300 LE | 2.0 | 1.6 | 0.7 | 0.5 | 0.3 | 8200 | 360 | 288 | 56.0 | 13.25 | 260 | 435 | 2230 | 92 | 2329 | 2 | 15 | 16 |
| DPC-360 | 6.3 | 1.4 | 0.9 | 0.6 | 0.3 | 8400 | 400 | 346 | 60.5 | 13.25 | 260 | 480 | 2630 | 103 | 2747 | 2 | 15 | 16 |
| DPC-360 LE | 2.0 | 1.1 | 0.6 | 0.5 | 0.3 | 7900 | 400 | 346 | 60.5 | 13.25 | 260 | 480 | 2690 | 105 | 2809 | 2 | 15 | 16 |
| DPC-450 LE | 2.7 | 1.2 | 0.6 | 0.5 | 0.3 | 7800 | 400 | 432 | 64.6 | 17.25 | 190 | 500 | 3220 | 124 | 1984 | 3 | 13.25 | 16 |
| DPC-540 | 8.6 | 1.3 | 0.8 | 0.6 | 0.3 | 8300 | 400 | 540 | 63.0 | 17.25 | 303 | 465 | 3890 | 155 | 2397 | 3 | 15 | 16 |
| DPC-540 LE | 2.0 | 1.0 | 0.6 | 0.5 | 0.3 | 7800 | 400 | 540 | 63.0 | 17.25 | 303 | 465 | 3970 | 158 | 2446 | 3 | 15 | 16 |
| DPC-600 | 13.0 | 1.2 | 0.7 | 0.5 | 0.3 | 8200 | 400 | 576 | 67.2 | 17.25 | 303 | 515 | 4110 | 155 | 2532 | 3 | 15 | 16 |
| DPC-600 LE | 6.5 | 0.9 | 0.6 | 0.5 | 0.3 | 7800 | 400 | 576 | 67.2 | 17.25 | 303 | 515 | 4190 | 158 | 2582 | 3 | 15 | 16 |
| DPC-720 | 9.5 | 1.3 | 0.7 | 0.5 | 0.3 | 8300 | 400 | 720 | 63.0 | 17.25 | 241 | 465 | 5190 | 207 | 3198 | 4 | 15 | 16 |
| DPC-720 LE | 2.0 | 1.0 | 0.6 | 0.5 | 0.3 | 7800 | 400 | 720 | 63.0 | 17.25 | 241 | 465 | 5300 | 211 | 3266 | 4 | 15 | 16 |
| DPC-800 | 13.0 | 1.2 | 0.7 | 0.5 | 0.3 | 8200 | 400 | 768 | 67.2 | 17.25 | 241 | 515 | 5480 | 207 | 3377 | 4 | 15 | 16 |
| DPC-800 LE | 6.5 | 1.0 | 0.6 | 0.5 | 0.3 | 7800 | 400 | 768 | 67.2 | 17.25 | 241 | 515 | 5590 | 211 | 3444 | 4 | 15 | 16 |
| DPC-2201 | 10.0 | 1.3 | 0.6 | 0.5 | 0.3 | 8000 | 440 | 148 | 60.4 | 12 | 190 | 490 | 1160 | 45 | 1477 | 1 | 13.25 | 16 |
| DPC-2201 LE | 2.0 | 1.4 | 0.6 | 0.5 | 0.3 | 7800 | 440 | 148 | 60.4 | 12 | 190 | 490 | 1200 | 47 | 1528 | 1 | 13.25 | 16 |
| DPC-2202 | 10.0 | 1.3 | 0.6 | 0.5 | 0.3 | 8000 | 440 | 296 | 60.4 | 12 | 190 | 470 | 2280 | 90 | 2903 | 2 | 13.25 | 16 |
| DPC-2202 LE | 2.0 | 1.4 | 0.6 | 0.5 | 0.3 | 7800 | 440 | 296 | 60.4 | 12 | 190 | 470 | 2350 | 93 | 2992 | 2 | 13.25 | 16 |
| DPC-2801 | 5.5 | 1.4 | 0.8 | 0.5 | 0.3 | 8200 | 440 | 192 | 61.1 | 13.25 | 256 | 460 | 1450 | 58 | 1514 | 1 | 15 | 16 |
| DPC-2801 LE | 2.0 | 1.2 | 0.6 | 0.5 | 0.3 | 7800 | 440 | 192 | 61.1 | 13.25 | 256 | 460 | 1490 | 60 | 1556 | 1 | 15 | 16 |
| DPC-2802 | 5.5 | 1.3 | 0.8 | 0.5 | 0.3 | 8200 | 440 | 422 | 67.2 | 13.25 | 260 | 465 | 2910 | 116 | 3039 | 2 | 15 | 16 |
| DPC-2802 LE | 2.0 | 1.2 | 0.6 | 0.5 | 0.3 | 7800 | 440 | 384 | 61.1 | 13.25 | 260 | 465 | 3000 | 119 | 3133 | 2 | 15 | 16 |
| DPC-2802 LE* | 2.0 | 1.2 | 0.6 | 0.5 | 0.3 | 7800 | 440 | 384 | 61.1 | 14.13 | 260 | 465 | 3000 | 119 | 2757 | 2 | 15 | 16 |
| DPC-2803 | 12.0 | 1.2 | 0.8 | 0.5 | 0.3 | 8000 | 440 | 634 | 67.3 | 17.25 | 303 | 465 | 4380 | 174 | 2699 | 3 | 15 | 16 |
| DPC-2803 LE | 2.0 | 1.2 | 0.6 | 0.5 | 0.3 | 7800 | 440 | 600 | 63.7 | 17.25 | 241 | 515 | 4740 | 179 | 2921 | 3 | 15 | 16 |
| DPC-2804 | 12.0 | 1.2 | 0.8 | 0.5 | 0.3 | 8000 | 440 | 845 | 67.2 | 17.25 | 241 | 465 | 5840 | 233 | 3598 | 4 | 15 | 16 |
| DPC-2804 LE | 2.0 | 1.2 | 0.6 | 0.5 | 0.3 | 7800 | 440 | 800 | 63.7 | 17.25 | 241 | 515 | 6320 | 239 | 3894 | 4 | 15 | 16 |
| DPC-3401 LE | 2.0 | 1.1 | 0.6 | 0.5 | 0.3 | 7800 | 440 | 232 | 61.0 | 13.25 | 256 | 460 | 1800 | 72 | 1880 | 1 | 16.5 | 16 |
| DPC-3402 LE | 2.0 | 1.1 | 0.6 | 0.5 | 0.3 | 7800 | 440 | 465 | 61.2 | 13.25 | 260 | 465 | 3630 | 145 | 3791 | 2 | 16.5 | 16 |
| DPC-3403 LE | 2.0 | 1.1 | 0.6 | 0.5 | 0.3 | 7800 | 440 | 726 | 63.7 | 17.25 | 241 | 515 | 5740 | 217 | 3537 | 3 | 16.5 | 16 |
| DPC-3404 LE | 2.0 | 1.1 | 0.6 | 0.5 | 0.3 | 7800 | 440 | 970 | 63.8 | 17.25 | 241 | 515 | 7650 | 289 | 4714 | 4 | 16.5 | 16 |

Date: March 2011, Site Altitude = 0 - 1500 FASL, Site Fuel Composition = Pipeline Quality Natural Gas (PLQNG)

Ambient Temp For Defining Maximum Load = 100 Deg F, Ambient Temp For Defining Exhaust Emissions = 65 Deg F

The above emissions and performance data is contingent on: 1.) Engine must be maintained in good working order. 2.) Engine modifications or upgrades from the original factory configuration must meet Ajax specifications and installation guidelines. 3.) Engine operating parameters must be consistent with those specified in the Ajax manual. NOx = Nitrogen Oxide, CO = Carbon Monoxide, NMHC = Non-Methane Hydrocarbons reported as Propane VOC = non-methane, non-ethane and non-Formaldehyde reported as propane, H2CO = Formaldehyde

FASL=Feet Above Sea Level, ACFM=Actual Cubic Feet Per Minute, BMEP=Brake Mean Effective Pressure, BSFC=Brake Specific Fuel Consumption (Btu/Bhp-Hr)

Pipe Line Quality Natural Gas (PLQNG): Nitrogen = 0.72%, Carbon Dioxide = 1.14%, Methane = 92.84%, Ethane = 4.1%, Propane = 1.2%

* = DPC-2802LE Tilt Muffler Package

For additional info, please contact Applications Engineering at (405) 670-4121, Cameron Compression Systems, 2101 SE 18th Street, Oklahoma City, OK 73129

GRI-GLYCalc VERSION 4.0 - SUMMARY OF INPUT VALUES

Case Name: Main Line Compressor Station

File Name:

Date: March 16, 2015

DESCRIPTION:

Description: 24" OD 8 BCT w/ 125MBtu/hr
 No Flash Sep
 5015SC kimray

Annual Hours of Operation: 8760.0 hours/yr

WET GAS:

Temperature: 90.00 deg. F
 Pressure: 140.00 psig
 Wet Gas Water Content: Subsaturated
 Specified Wet Gas Water Content: 58.00 lbs. H2O/MMSCF

| Component | Conc. (vol %) |
|----------------|------------------|
| ----- | ----- |
| Carbon Dioxide | 0.1710 |
| Nitrogen | 1.1180 |
| Methane | 80.5310 |
| Ethane | 11.9630 |
| Propane | 4.2410 |
| Isobutane | 0.3220 |
| n-Butane | 0.9400 |
| Isopentane | 0.1630 |
| n-Pentane | 0.1820 |
| Other Hexanes | 0.3680 |
| Benzene | 0.0001 |
| Toluene | 0.0000 |
| Ethylbenzene | 0.0000 |
| Xylenes | 0.0000 |
| C8+ Heavies | 0.0007 |

DRY GAS:

Flow Rate: 3.2 MMSCF/day
 Water Content: 7.0 lbs. H2O/MMSCF

LEAN GLYCOL:

Glycol Type: TEG
 Water Content: 0.6 wt% H2O
 Recirculation Ratio: 6.0 gal/lb H2O

PUMP:

Glycol Pump Type: Gas Injection
 Gas Injection Pump Volume Ratio: 0.130 acfm gas/gpm glycol

STRIPPING GAS:

Source of Gas: Dry Gas
Gas Flow Rate: 0.200 scfm

Case Name: Main Line Compressor Station
 File Name:
 Date: March 16, 2015

UNCONTROLLED REGENERATOR EMISSIONS

| Component | lbs/hr | lbs/day | tons/yr |
|------------------------------------|---------------|----------------|----------------|
| Methane | 2.3855 | 57.253 | 10.4486 |
| Ethane | 0.8214 | 19.714 | 3.5979 |
| Propane | 0.5475 | 13.139 | 2.3979 |
| Isobutane | 0.0698 | 1.675 | 0.3057 |
| n-Butane | 0.2441 | 5.858 | 1.0691 |
| Isopentane | 0.0596 | 1.430 | 0.2610 |
| n-Pentane | 0.0799 | 1.918 | 0.3500 |
| Other Hexanes | 0.2572 | 6.173 | 1.1266 |
| Benzene | 0.0015 | 0.035 | 0.0064 |
| Toluene | 0.0022 | 0.054 | 0.0098 |
| Ethylbenzene | 0.0001 | 0.002 | 0.0003 |
| Xylenes | 0.0013 | 0.031 | 0.0057 |
| C8+ Heavies | 0.0214 | 0.513 | 0.0937 |
| Total Emissions | 4.4915 | 107.796 | 19.6727 |
| Total Hydrocarbon Emissions | 4.4915 | 107.796 | 19.6727 |
| Total VOC Emissions | 1.2845 | 30.829 | 5.6262 |
| Total HAP Emissions | 0.0051 | 0.122 | 0.0223 |
| Total BTEX Emissions | 0.0051 | 0.122 | 0.0223 |

Case Name: Main Line Compressor Station
 File Name:
 Date: March 16, 2015

ABSORBER

Calculated Absorber Stages: 1.33
 Specified Dry Gas Dew Point: 7.00 lbs. H2O/MMSCF
 Temperature: 90.0 deg. F
 Pressure: 140.0 psig
 Dry Gas Flow Rate: 3.2000 MMSCF/day
 Glycol Losses with Dry Gas: 0.0133 lb/hr
 Wet Gas Water Content: Subsaturated
 Specified Wet Gas Water Content: 58.00 lbs. H2O/MMSCF
 Specified Lean Glycol Recirc. Ratio: 6.00 gal/lb H2O

| Component | Remaining in Dry Gas | Absorbed in Glycol |
|----------------|-------------------------|-----------------------|
| Water | 12.05% | 87.95% |
| Carbon Dioxide | 99.94% | 0.06% |
| Nitrogen | 100.00% | 0.00% |
| Methane | 100.00% | 0.00% |
| Ethane | 99.98% | 0.02% |
| Propane | 99.97% | 0.03% |
| Isobutane | 99.94% | 0.06% |
| n-Butane | 99.92% | 0.08% |
| Isopentane | 99.90% | 0.10% |
| n-Pentane | 99.88% | 0.12% |
| Other Hexanes | 99.82% | 0.18% |
| Benzene | 91.34% | 8.66% |
| Toluene | 85.60% | 14.40% |
| Ethylbenzene | 75.31% | 24.69% |
| Xylenes | 66.82% | 33.18% |
| C8+ Heavies | 95.15% | 4.85% |

REGENERATOR

Regenerator Stripping Gas:
 Dry Product Gas Stripping Gas Flow Rate: 0.2000 scfm

| Component | Remaining in Glycol | Distilled Overhead |
|----------------|------------------------|-----------------------|
| Water | 25.24% | 74.76% |
| 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 | 0.35% | 99.65% |
| n-Pentane | 0.38% | 99.62% |
| Other Hexanes | 0.82% | 99.18% |
| Benzene | 4.98% | 95.02% |

| | | |
|--------------|--------|--------|
| Toluene | 7.89% | 92.11% |
| Ethylbenzene | 10.40% | 89.60% |
| Xylenes | 12.91% | 87.09% |
| C8+ Heavies | 11.96% | 88.04% |

Case Name: Main Line Compressor Station

File Name:

Date: March 16, 2015

DESCRIPTION:

Description: 24" OD 8 BCT w/ 125MBtu/hr
 No Flash Sep
 5015SC kimray

Annual Hours of Operation: 8760.0 hours/yr

EMISSIONS REPORTS:

UNCONTROLLED REGENERATOR EMISSIONS

| Component | lbs/hr | lbs/day | tons/yr |
|------------------------------------|---------------|----------------|----------------|
| Methane | 2.3855 | 57.253 | 10.4486 |
| Ethane | 0.8214 | 19.714 | 3.5979 |
| Propane | 0.5475 | 13.139 | 2.3979 |
| Isobutane | 0.0698 | 1.675 | 0.3057 |
| n-Butane | 0.2441 | 5.858 | 1.0691 |
| Isopentane | 0.0596 | 1.430 | 0.2610 |
| n-Pentane | 0.0799 | 1.918 | 0.3500 |
| Other Hexanes | 0.2572 | 6.173 | 1.1266 |
| Benzene | 0.0015 | 0.035 | 0.0064 |
| Toluene | 0.0022 | 0.054 | 0.0098 |
| Ethylbenzene | 0.0001 | 0.002 | 0.0003 |
| Xylenes | 0.0013 | 0.031 | 0.0057 |
| C8+ Heavies | 0.0214 | 0.513 | 0.0937 |
| Total Emissions | 4.4915 | 107.796 | 19.6727 |
| Total Hydrocarbon Emissions | 4.4915 | 107.796 | 19.6727 |
| Total VOC Emissions | 1.2845 | 30.829 | 5.6262 |
| Total HAP Emissions | 0.0051 | 0.122 | 0.0223 |
| Total BTEX Emissions | 0.0051 | 0.122 | 0.0223 |

EQUIPMENT REPORTS:

ABSORBER

Calculated Absorber Stages: 1.33
 Specified Dry Gas Dew Point: 7.00 lbs. H2O/MMSCF
 Temperature: 90.0 deg. F
 Pressure: 140.0 psig
 Dry Gas Flow Rate: 3.2000 MMSCF/day
 Glycol Losses with Dry Gas: 0.0133 lb/hr
 Wet Gas Water Content: Subsaturated
 Specified Wet Gas Water Content: 58.00 lbs. H2O/MMSCF
 Specified Lean Glycol Recirc. Ratio: 6.00 gal/lb H2O

Remaining Absorbed

| Component | in Dry Gas | in Glycol |
|----------------|------------|-----------|
| Water | 12.05% | 87.95% |
| Carbon Dioxide | 99.94% | 0.06% |
| Nitrogen | 100.00% | 0.00% |
| Methane | 100.00% | 0.00% |
| Ethane | 99.98% | 0.02% |
| Propane | 99.97% | 0.03% |
| Isobutane | 99.94% | 0.06% |
| n-Butane | 99.92% | 0.08% |
| Isopentane | 99.90% | 0.10% |
| n-Pentane | 99.88% | 0.12% |
| Other Hexanes | 99.82% | 0.18% |
| Benzene | 91.34% | 8.66% |
| Toluene | 85.60% | 14.40% |
| Ethylbenzene | 75.31% | 24.69% |
| Xylenes | 66.82% | 33.18% |
| C8+ Heavies | 95.15% | 4.85% |

REGENERATOR

Regenerator Stripping Gas:
Dry Product Gas

Stripping Gas Flow Rate: 0.2000 scfm

| Component | Remaining in Glycol | Distilled Overhead |
|----------------|------------------------|-----------------------|
| Water | 25.24% | 74.76% |
| 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 | 0.35% | 99.65% |
| n-Pentane | 0.38% | 99.62% |
| Other Hexanes | 0.82% | 99.18% |
| Benzene | 4.98% | 95.02% |
| Toluene | 7.89% | 92.11% |
| Ethylbenzene | 10.40% | 89.60% |
| Xylenes | 12.91% | 87.09% |
| C8+ Heavies | 11.96% | 88.04% |

STREAM REPORTS:

WET GAS STREAM

Temperature: 90.00 deg. F
Pressure: 154.70 psia
Flow Rate: 1.34e+005 scfh

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

| | | |
|------------------|-----------|-----------|
| Water | 1.22e-001 | 7.74e+000 |
| Carbon Dioxide | 1.71e-001 | 2.64e+001 |
| Nitrogen | 1.12e+000 | 1.10e+002 |
| Methane | 8.04e+001 | 4.54e+003 |
| Ethane | 1.19e+001 | 1.26e+003 |
| Propane | 4.24e+000 | 6.57e+002 |
| Isobutane | 3.22e-001 | 6.58e+001 |
| n-Butane | 9.39e-001 | 1.92e+002 |
| Isopentane | 1.63e-001 | 4.13e+001 |
| n-Pentane | 1.82e-001 | 4.61e+001 |
| Other Hexanes | 3.68e-001 | 1.11e+002 |
| Benzene | 6.15e-005 | 1.69e-002 |
| Toluene | 4.78e-005 | 1.55e-002 |
| Ethylbenzene | 7.76e-007 | 2.90e-004 |
| Xylenes | 1.05e-005 | 3.94e-003 |
| C8+ Heavies | 7.29e-004 | 4.37e-001 |
| Total Components | 100.00 | 7.06e+003 |

DRY GAS STREAM

Temperature: 90.00 deg. F
 Pressure: 154.70 psia
 Flow Rate: 1.33e+005 scfh

| Component | Conc. (vol%) | Loading (lb/hr) |
|------------------|-----------------|--------------------|
| Water | 1.47e-002 | 9.33e-001 |
| Carbon Dioxide | 1.71e-001 | 2.64e+001 |
| Nitrogen | 1.12e+000 | 1.10e+002 |
| Methane | 8.05e+001 | 4.54e+003 |
| Ethane | 1.20e+001 | 1.26e+003 |
| Propane | 4.24e+000 | 6.57e+002 |
| Isobutane | 3.22e-001 | 6.57e+001 |
| n-Butane | 9.39e-001 | 1.92e+002 |
| Isopentane | 1.63e-001 | 4.13e+001 |
| n-Pentane | 1.82e-001 | 4.61e+001 |
| Other Hexanes | 3.67e-001 | 1.11e+002 |
| Benzene | 5.63e-005 | 1.54e-002 |
| Toluene | 4.10e-005 | 1.33e-002 |
| Ethylbenzene | 5.85e-007 | 2.18e-004 |
| Xylenes | 7.06e-006 | 2.63e-003 |
| C8+ Heavies | 6.95e-004 | 4.16e-001 |
| Total Components | 100.00 | 7.05e+003 |

LEAN GLYCOL STREAM

Temperature: 90.00 deg. F
 Flow Rate: 6.80e-001 gpm

| Component | Conc. (wt%) | Loading (lb/hr) |
|----------------|----------------|--------------------|
| TEG | 9.94e+001 | 3.81e+002 |
| Water | 6.00e-001 | 2.30e+000 |
| Carbon Dioxide | 4.30e-013 | 1.65e-012 |
| Nitrogen | 1.14e-013 | 4.36e-013 |

| | | |
|------------------|-----------|-----------|
| Methane | 1.57e-018 | 6.01e-018 |
| Ethane | 2.55e-008 | 9.77e-008 |
| Propane | 2.42e-009 | 9.28e-009 |
| Isobutane | 2.96e-010 | 1.13e-009 |
| n-Butane | 9.75e-010 | 3.74e-009 |
| Isopentane | 5.18e-005 | 1.99e-004 |
| n-Pentane | 7.54e-005 | 2.89e-004 |
| Other Hexanes | 5.35e-004 | 2.05e-003 |
| Benzene | 2.01e-005 | 7.70e-005 |
| Toluene | 5.00e-005 | 1.92e-004 |
| Ethylbenzene | 2.17e-006 | 8.32e-006 |
| Xylenes | 5.06e-005 | 1.94e-004 |
| C8+ Heavies | 7.56e-004 | 2.90e-003 |
| ----- | | |
| Total Components | 100.00 | 3.83e+002 |

RICH GLYCOL AND PUMP GAS STREAM

Temperature: 90.00 deg. F
 Pressure: 154.70 psia
 Flow Rate: 7.02e-001 gpm
 NOTE: Stream has more than one phase.

| Component | Conc. (wt%) | Loading (lb/hr) |
|------------------|----------------|--------------------|
| ----- | | |
| TEG | 9.67e+001 | 3.81e+002 |
| Water | 2.31e+000 | 9.11e+000 |
| Carbon Dioxide | 6.84e-003 | 2.70e-002 |
| Nitrogen | 1.22e-002 | 4.79e-002 |
| Methane | 5.02e-001 | 1.98e+000 |
| Ethane | 1.80e-001 | 7.08e-001 |
| Propane | 1.24e-001 | 4.88e-001 |
| Isobutane | 1.62e-002 | 6.39e-002 |
| n-Butane | 5.76e-002 | 2.27e-001 |
| Isopentane | 1.42e-002 | 5.61e-002 |
| n-Pentane | 1.93e-002 | 7.61e-002 |
| Other Hexanes | 6.33e-002 | 2.49e-001 |
| Benzene | 3.93e-004 | 1.55e-003 |
| Toluene | 6.17e-004 | 2.43e-003 |
| Ethylbenzene | 2.03e-005 | 8.00e-005 |
| Xylenes | 3.81e-004 | 1.50e-003 |
| C8+ Heavies | 6.15e-003 | 2.42e-002 |
| ----- | | |
| Total Components | 100.00 | 3.94e+002 |

REGENERATOR OVERHEADS STREAM

Temperature: 212.00 deg. F
 Pressure: 14.70 psia
 Flow Rate: 2.20e+002 scfh

| Component | Conc. (vol%) | Loading (lb/hr) |
|----------------|-----------------|--------------------|
| ----- | | |
| Water | 6.52e+001 | 6.81e+000 |
| Carbon Dioxide | 1.15e-001 | 2.93e-002 |
| Nitrogen | 3.56e-001 | 5.78e-002 |
| Methane | 2.56e+001 | 2.39e+000 |
| Ethane | 4.71e+000 | 8.21e-001 |

| | | |
|------------------|-----------|-----------|
| Propane | 2.14e+000 | 5.47e-001 |
| Isobutane | 2.07e-001 | 6.98e-002 |
| n-Butane | 7.24e-001 | 2.44e-001 |
| Isopentane | 1.42e-001 | 5.96e-002 |
| n-Pentane | 1.91e-001 | 7.99e-002 |
| Other Hexanes | 5.15e-001 | 2.57e-001 |
| Benzene | 3.25e-003 | 1.47e-003 |
| Toluene | 4.19e-003 | 2.24e-003 |
| Ethylbenzene | 1.16e-004 | 7.17e-005 |
| Xylenes | 2.13e-003 | 1.31e-003 |
| C8+ Heavies | 2.16e-002 | 2.14e-002 |
| ----- | ----- | ----- |
| Total Components | 100.00 | 1.14e+001 |



**Southern
Hydrocarbon
Corporation**

SERVICES & PRODUCTS

Apt. B, 934 Little Coal River
Alum Creek, West Virginia 25003
Tel.: (304) 756-3171 • Fax: (304) 756-1364

Chandler Engineering Co.
Model 292/2920 BTU Analyzer

Test time: Feb.23 15 10:15
Test #:2591

Calibration #: 104
Location No. :3

| | Standard/Dry Analysis | | | | Saturated/Wet Analysis | | |
|-----------|-----------------------|--------|---------|--------|------------------------|--------|---------|
| | Mole% | BTU* | R.Den.* | GPM** | Mole% | BTU* | R.Den.* |
| Methane | 80.531 | 815.27 | 0.4461 | -- | 79.130 | 801.08 | 0.4383 |
| Ethane | 11.963 | 212.20 | 0.1242 | 3.1973 | 11.755 | 208.51 | 0.1220 |
| Propane | 4.241 | 106.97 | 0.0646 | 1.1678 | 4.167 | 105.10 | 0.0635 |
| i-Butane | 0.322 | 10.48 | 0.0065 | 0.1052 | 0.316 | 10.30 | 0.0063 |
| n-Butane | 0.940 | 30.73 | 0.0189 | 0.2963 | 0.923 | 30.20 | 0.0185 |
| i-Pentane | 0.163 | 6.54 | 0.0041 | 0.0597 | 0.160 | 6.43 | 0.0040 |
| n-Pentane | 0.182 | 7.33 | 0.0045 | 0.0661 | 0.179 | 7.20 | 0.0045 |
| (C6+) | 0.368 | 18.69 | 0.0117 | 0.1585 | 0.362 | 18.37 | 0.0115 |
| Moisture | 0.000 | 0.00 | 0.0000 | -- | 1.740 | 0.88 | 0.0108 |
| Nitrogen | 1.118 | 0.00 | 0.0108 | -- | 1.099 | 0.00 | 0.0106 |
| (CO2) | 0.171 | 0.00 | 0.0026 | -- | 0.168 | 0.00 | 0.0026 |

Ideal 100.00 1208.2 0.6939 5.0508

* : Uncorrected for compressibility at 60.OF & 14.730PSIA.

** : Liquid Volume reported at 60.OF.

| | Standard/Dry Analysis | Saturated/Wet Analysis |
|--------------------------------|-----------------------|---------------------------------------------|
| Molar Mass | = 20.096 | 20.060 |
| Relative Density | = 0.6959 | 0.6947 |
| Compressibility Factor | = 0.9967 | 0.9966 |
| Gross Heating Value | = 22763. Btu/lb | 22424. Btu/lb |
| Gross Heating Value | = 1212.2 Btu/CF | 1192.1 Btu/CF |
| Absolute Gas Density | = 53.2538 lbm/1000CF | 53.1626 lbm/1000CF |
| Wobbe Index | = 1429.05 | |
| Unnormalized Total : | 99.976 | |
| Last Calibrated with Calgas of | 1056.4 Btu/CF | Feb.23 15 09:42 |
| C6+ Last Update: GPA 2261-90. | | |
| C6+ BTU/CF | 5065.8, | C6+ lbm/Gal 5.64250, and C6+ Mol.Wt. 92.00. |

Client: Hard Rock Exploration

Well/Site: Main Line Suction

Measuring Station: _____

District: _____ **Pressure:** 72#

Date: 02/20/2015 **Time:** 1205

Remarks: _____

DISCLAIMER

All analysis are based solely on samples and materials supplied to Southern Hydrocarbon Corporation by the client. Southern Hydrocarbon Corporation, its officers and employees assume no responsibility for and make no warranty as to the productivity, proper operations, or profitability of any gas well or well or other operations or facilities in connection with which these analysis are relied upon. Southern Hydrocarbon Corporation makes no warranty as to the accuracy of these analysis. These analysis reflect the best judgement by Southern Hydrocarbon Corporation

Attachment J

Class I Legal Advertisement

AIR QUALITY PERMIT NOTICE

Notice of Application

Notice is given that Caraline Energy Company, Inc. has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Class II Administrative Update for the installation of a new compressor unit at their Mainline Compressor Station Site located off of Rocky Knob (County Road 40/1) northeast of Statts Mills, in Jackson County, West Virginia. The latitude and longitude coordinates are: 38.749148 N and 81.610000 W.

The applicant estimates the potential to discharge the following Regulated Air Pollutants:

| <u>Pollutant</u> | <u>Current</u> | <u>Proposed</u> | <u>Difference</u> |
|-------------------|----------------|-----------------|-------------------|
| CO | 8.91 | 3.73 | -5.18 |
| NO _x | 12.5 | 6.87 | -5.60 |
| PM ₁₀ | 0.0062 | 0.0052 | -0.0007 |
| SO ₂ | 0.0126 | 0.0074 | -0.0052 |
| VOC | 33.8 | 7.30 | -0.265 |
| CH ₂ O | 1.66 | 2.00 | 0.344 |

Startup of operation is planned to begin on or about the 30th day of September, 2015. 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 the 2nd day of September, 2015.

By: Caraline Energy Company, Inc.
Mr. James Stephens
President
1244 Martins Branch Road
Charleston, West Virginia 25312

Attachment K

Electronic Submittal Diskette

Certification of Information

SECTION IV. CERTIFICATION OF INFORMATION

This General Permit Registration Application shall be signed below by a Responsible Official. A Responsible Official is a President, Vice President, Secretary, Treasurer, General Partner, General Manager, a member of a Board of Directors, or Owner, depending on business structure. A business may certify an Authorized Representative who shall have authority to bind the Corporation, Partnership, Limited Liability Company, Association, Joint Venture or Sole Proprietorship. Required records of daily throughput, hours of operation and maintenance, general correspondence, Emission Inventory, Certified Emission Statement, compliance certifications and all required notifications must be signed by a Responsible Official or an Authorized Representative. If a business wishes to certify an Authorized Representative, the official agreement below shall be checked off and the appropriate names and signatures entered. Any administratively incomplete or improperly signed or unsigned Registration Application will be returned to the applicant.

FOR A CORPORATION (domestic or foreign)

I certify that I am a President, Vice President, Secretary, Treasurer or in charge of a principal business function of the corporation

FOR A PARTNERSHIP

I certify that I am a General Partner

FOR A LIMITED LIABILITY COMPANY

I certify that I am a General Partner or General Manager

FOR AN ASSOCIATION

I certify that I am the President or a member of the Board of Directors

FOR A JOINT VENTURE

I certify that I am the President, General Partner or General Manager

FOR A SOLE PROPRIETORSHIP

I certify that I am the Owner and Proprietor

I hereby certify that (please print or type) Mr. James Stephens, President
is an Authorized Representative and in that capacity shall represent the interest of the business (e.g., Corporation, Partnership, Limited Liability Company, Association Joint Venture or Sole Proprietorship) and may obligate and legally bind the business. If the business changes its Authorized Representative, a Responsible Official shall notify the Chief of the Office of Air Quality immediately, and/or,

I hereby certify that all information contained in this General Permit Registration Application and any supporting documents appended hereto is, to the best of my knowledge, true, accurate and complete, and that all reasonable efforts have been made to provide the most comprehensive information possible

Signature _____

(please use blue ink)

Responsible Official

Date

9-8-2015

Name & Title _____

(please print or type)

Mr. James Stephens, President

Signature _____

(please use blue ink)

Not Applicable

Authorized Representative (if applicable)

Date

Applicant's Name _____

Mr. Rick Lathey

Phone & Fax _____

304.984.9004

Phone

304.769.0533

Fax

Email _____

rlathey@hardrockexploration.com

Attachment L

General Permit Registration Application Fee

Attachment M

Siting Criteria Waiver
(Not Applicable, therefore not included)