

ID # 039-000004
Reg PD15-079
Company Cranberry Pipeline Corporation
Facility Lane Station Initials CSJ



August 31, 2015

Fred Durham
Director
WVDEP, Division of Air Quality
601 – 57th Street
Charleston, West Virginia 25304



Re: Permit Determination Request- Lane Branch Meter Station

Dear Director,

SLR International Corporation, on behalf of Cranberry Pipeline Corporation, is submitting for your consideration the attached Permit Determination Application for the Lane Branch Meter Station. The revision to facility consists of installing a 1.5 MMBTU/HR natural gas fired line heater.

If you have any questions please contact Nathaniel Lanham at (681) 205-8949 or by e-mail at nlanham@slrconsulting.com

Sincerely,

A handwritten signature in blue ink that reads "N. Lanham".

Nathaniel Lanham
WV Operations Manager
SLR International Corporation

Cc Randy Spencer- Cranberry Pipeline Corporation

Entire Document
NON-CONFIDENTIAL



global environmental solutions

Cranberry Pipeline Corporation
c/o Cabot Oil & Gas Corporation

Lane Branch Meter Station

Pocatalico, West Virginia

Permit Determination

SLR Ref: 116.00400.00124

August 2015



global environmental solutions

Permit Determination
Lane Branch Meter Station
Pocatalico, West Virginia

Prepared for:

Cranberry Pipeline Corporation
c/o Cabot Oil & Gas Corporation
900 Lee Street, East
Suite 1500
Charleston, West Virginia 25301

This document has been prepared by SLR International Corporation. The material and data in this permit application were prepared under the supervision and direction of the undersigned.

Michelle Nottingham
Project Scientist

A handwritten signature in blue ink that reads "N L Lanham".

Nathaniel Lanham
WW Operations Manager

CONTENTS

APPLICATION FOR PERMIT DETERMINATION

ATTACHMENTS

ATTACHMENT A AREA MAP

ATTACHMENT B PROCESS FLOW DIAGRAM

ATTACHMENT C PROCESS DESCRIPTION

ATTACHMENT D MATERIAL SAFETY DATA SHEETS (MSDS)

ATTACHMENT E SUPPORTING CALCULATIONS

APPLICATION FOR PERMIT DETERMINATION

Permit Determination

**Lane Branch Meter Station
Pocatalico, West Virginia**

Cranberry Pipeline Corporation
c/o Cabot Oil & Gas Corporation
900 Lee Street East, Suite 1500
Charleston, West Virginia 25301



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

**PERMIT DETERMINATION FORM
(PDF)**

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

PDF # _____ PERMIT WRITER _____

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

Cranberry Pipeline Corporation

2. NAME OF FACILITY (IF DIFFERENT FROM ABOVE):

Lane Branch Meter Station

3. NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) CODE:

211111

4A. MAILING ADDRESS:

102 3rd Street
Glasgow, West Virginia 25086

4B. PHYSICAL ADDRESS:

150Ft onto Hylbert Dr. Pocatalico, WV

5A. DIRECTIONS TO FACILITY (PLEASE PROVIDE MAP AS ATTACHMENT A):

From the Interstate 77 Northbound take exit 111 for Tupper's Creek Rd. toward WV 29, turn left onto Walker Dr. continue onto Call Rd. travel approximately 1.2 miles. Turn Right onto Sissonville Dr. Turn left on Hylbert Dr. facility is located on the right.

5B. NEAREST ROAD:

Sissonville Dr.

5C. NEAREST CITY OR TOWN:

Pocatalico

5D. COUNTY:

Kanawha

5E. UTM NORTHING (KM):

4255993.77

5F. UTM EASTING (KM):

441432.16

5G. UTM ZONE:

17

6A. INDIVIDUAL TO CONTACT IF MORE INFORMATION IS REQUIRED:

Jesse Hanshaw

6B. TITLE:

Principal Engineer

6C. TELEPHONE:

304-545-8563

6D. FAX:

N/a

6E. E-MAIL:

jhsanshaw@slrconsulting.com

7A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY ONLY):

N/a

7B. PLEASE LIST ALL CURRENT 45CSR13, 45CSR14, 45CSR19 AND/OR TITLE V (45CSR30) PERMIT NUMBERS ASSOCIATED WITH THIS PROCESS (FOR AN EXISTING FACILITY ONLY):

N/a

7C. IS THIS PDF BEING SUBMITTED AS THE RESULT OF AN ENFORCEMENT ACTION? IF YES, PLEASE LIST:

N/a

8A. TYPE OF EMISSION SOURCE (CHECK ONE):

NEW SOURCE ADMINISTRATIVE UPDATE

MODIFICATION OTHER (PLEASE EXPLAIN IN 11B)

8B. IF ADMINISTRATIVE UPDATE, DOES DAQ HAVE THE APPLICANT'S CONSENT TO UPDATE THE EXISTING PERMIT WITH THE INFORMATION CONTAINED HEREIN?

YES NO

9. IS DEMOLITION OR PHYSICAL RENOVATION AT AN EXISTING FACILITY INVOLVED? YES NO

10A. DATE OF ANTICIPATED INSTALLATION OR CHANGE:

10B. DATE OF ANTICIPATED START-UP:

11A. PLEASE PROVIDE A DETAILED PROCESS FLOW DIAGRAM SHOWING EACH PROPOSED OR MODIFIED PROCESS EMISSION POINT AS ATTACHMENT B.

11B. PLEASE PROVIDE A DETAILED PROCESS DESCRIPTION AS ATTACHMENT C.

12. PLEASE PROVIDE MATERIAL SAFETY DATA SHEETS (MSDS) FOR ALL MATERIALS PROCESSED, USED OR PRODUCED AS ATTACHMENT D. FOR CHEMICAL PROCESSES, PLEASE PROVIDE A MSDS FOR EACH COMPOUND EMITTED TO AIR.

13A. REGULATED AIR POLLUTANT EMISSIONS:

⇒ FOR A NEW FACILITY, PLEASE PROVIDE PLANT WIDE EMISSIONS BASED ON THE POTENTIAL TO EMIT (PTE) FOR THE FOLLOWING AIR POLLUTANTS INCLUDING ALL PROCESSES.

⇒ FOR AN EXISTING FACILITY, PLEASE PROVIDE THE PROPOSED CHANGE IN EMISSIONS BASED ON THE PTE OF ALL PROCESS CHANGES FOR THE FOLLOWING AIR POLLUTANTS.

PTE FOR A GIVEN POLLUTANT IS TYPICALLY BEFORE AIR POLLUTION CONTROL DEVICES AND IS COLLECTED BASED ON THE MAXIMUM DESIGN CAPACITY OF PROCESS EQUIPMENT.

| POLLUTANT | HOURLY PTE (LB/HR) | YEARLY PTE (TON/YR) (HOURLY PTE MULTIPLIED BY 8760 HR/YR) DIVIDED BY 2000 LB/TON |
|-------------------------|--------------------|--|
| PM | 0.011 | 0.049 |
| PM ₁₀ | 0.084 | 0.367 |
| VOCs | 0.008 | 0.035 |
| CO | 0.124 | 0.541 |
| NO _x | 0.147 | 0.644 |
| SO ₂ | 0.001 | 0.004 |
| Pb | N/a | N/a |
| HAPs (AGGREGATE AMOUNT) | 0.000 | 0.012 |
| TAPs (INDIVIDUALLY)* | N/a | N/a |
| OTHER (INDIVIDUALLY)* | N/a | N/a |

* ATTACH ADDITIONAL PAGES AS NEEDED

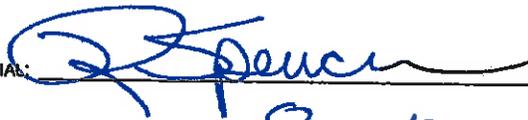
13B. PLEASE PROVIDE ALL SUPPORTING CALCULATIONS AS ATTACHMENT E.

CALCULATE AN HOURLY AND YEARLY PTE OF EACH PROCESS EMISSION POINT (SHOWN IN YOUR DETAILED PROCESS FLOW DIAGRAM) FOR ALL AIR POLLUTANTS LISTED ABOVE INCLUDING INDIVIDUAL HAP'S (LISTED IN SECTION 112[b] OF THE 1990 CAAA), TAP'S (LISTED IN 45CSR27), AND OTHER AIR POLLUTANTS (E.G. POLLUTANTS LISTED IN TABLE 45-13A OF 45CSR13, MINERAL ACIDS PER 45CSR7, ETC.).

14. CERTIFICATION OF DATA

I, (TYPE NAME) ATTEST THAT ALL THE REPRESENTATIONS CONTAINED IN THIS APPLICATION, OR APPENDED HERETO, ARE TRUE, ACCURATE, AND COMPLETE TO THE BEST OF MY KNOWLEDGE BASED ON INFORMATION AND BELIEF AFTER REASONABLE INQUIRY, AND THAT I AM A RESPONSIBLE OFFICIAL** (PRESIDENT, VICE PRESIDENT, SECRETARY OR TREASURER, GENERAL PARTNER OR SOLE PROPRIETOR) OF THE APPLICANT.

SIGNATURE OF RESPONSIBLE OFFICIAL: _____



TITLE: EHS Manager

Date: 8 / 17 / 2015

** THE DEFINITION OF THE PHRASE 'RESPONSIBLE OFFICIAL' CAN BE FOUND AT 45CSR13, SECTION 2.23.

NOTE: PLEASE CHECK ENCLOSED ATTACHMENTS:

- ATTACHMENT A ATTACHMENT B ATTACHMENT C ATTACHMENT D ATTACHMENT E

RECORDS ON ALL CHANGES ARE REQUIRED TO BE KEPT AND MAINTAINED ON-SITE FOR TWO (2) YEARS.

THE PERMIT DETERMINATION FORM WITH THE INSTRUCTIONS CAN BE FOUND ON DAQ'S PERMITTING SECTION WEB SITE:

www.dep.wv.gov/daq

ATTACHMENT A

AREA MAP

Permit Determination

**Lane Branch Meter Station
Pocatalico, West Virginia**

Cranberry Pipeline Corporation
c/o Cabot Oil & Gas Corporation
900 Lee Street East, Suite 1500
Charleston, West Virginia 25301

Lane Branch Meter Station

Attachment A- Location Map

Legend

 Lane Branch



Google earth

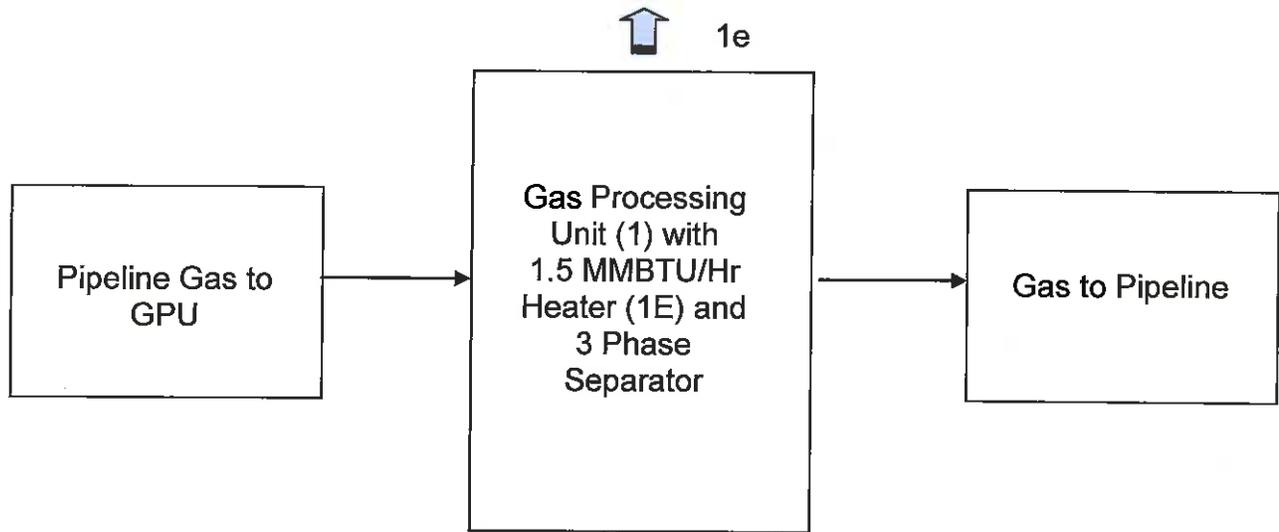
© 2015 Google

ATTACHMENT B
PROCESS FLOW DIAGRAM

Permit Determination

**Lane Branch Meter Station
Pocatalico, West Virginia**

Cranberry Pipeline Corporation
c/o Cabot Oil & Gas Corporation
900 Lee Street East, Suite 1500
Charleston, West Virginia 25301



ATTACHMENT C

PROCESS DESCRIPTION

Permit Determination

**Lane Branch Meter Station
Pocatalico, West Virginia**

Cranberry Pipeline Corporation
c/o Cabot Oil & Gas Corporation
900 Lee Street East, Suite 1500
Charleston, West Virginia 25301

PROCESS DESCRIPTION

A line heater is being added to a meter/regulator station that currently does not have a stationary source.

Natural Gas and associated liquids will enter the Lane Branch Station via pipelines touted to flow into the facility. The gas and liquids mixture will pass through the 1.5 MMBTU gas processing unit (GPU). In the GPU the stream will be divided into gas and liquids. The gas will leave the GPU and go directly into the sales gas line. The associated liquids will blow into a 3 phase separator where liquids will be knocked out and gas separated will be recycled into the sales gas line.

ATTACHMENT D
SAFETY DATA SHEETS (SDS)

Permit Determination

**Lane Branch Meter Station
Pocatalico, West Virginia**

Cranberry Pipeline Corporation
c/o Cabot Oil & Gas Corporation
900 Lee Street East, Suite 1500
Charleston, West Virginia 25301

ATTACHMENT E

SUPPORTING CALCULATIONS

Permit Determination

**Lane Branch Meter Station
Pocatalico, West Virginia**

Cranberry Pipeline Corporation
c/o Cabot Oil & Gas Corporation
900 Lee Street East, Suite 1500
Charleston, West Virginia 25301

| Source | PM | PM10 | PM2.5 | SO2 | NOx | CO | VOC | HAPs | CO2e |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|
| boiler Heater | 0.05 | 0.37 | 0.37 | 0.00 | 0.64 | 0.54 | 0.04 | 0.01 | 768.32 |
| total Emissions (ton/yr) | 0.05 | 0.37 | 0.37 | 0.00 | 0.64 | 0.54 | 0.04 | 0.01 | 768.32 |
| total Emissions (lb/day) | 0.27 | 2.01 | 2.01 | 0.02 | 3.53 | 2.96 | 0.19 | 0.07 | 4209.99 |
| total Emissions (lb/hr) | 0.01 | 0.08 | 0.08 | 0.00 | 0.15 | 0.12 | 0.01 | 0.00 | 175.42 |

2e total is in Metric Tons/yr

Fugitive Emissions

| Source | PM | PM10 | PM2.5 | SO2 | NOx | CO | VOC | HAPs | CO2e |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Fugitive Equipment Leaks | | | | | | | 3.52 | | 81.80 |
| total Emissions (ton/yr) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.52 | 0.00 | 81.80 |
| total Emissions (lb/day) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 19.28 | 0.00 | 448.21 |
| total Emissions (lb/hr) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.80 | 0.00 | 18.68 |

| | | | |
|----------------------------------|------------------------|-----|-----------------|
| PM1/PM10/PM2.5 | 1.6 lb/MMcf | (1) | 0.049 |
| SO ₂ | 0.6 lb/MMcf | (1) | 0.004 |
| NOx | 100 lb/MMcf | (2) | 0.644 |
| CO | 84 lb/MMcf | (2) | 0.541 |
| VOC | 5.5 lb/MMcf | (1) | 0.035 |
| Hazardous Air Pollutants | | | |
| Arsenic | 2.0E-04 lb/MMcf | (3) | 0.000 |
| Benzene | 2.1E-03 lb/MMcf | (4) | 0.000 |
| Beryllium | 1.2E-05 lb/MMcf | (3) | 0.000 |
| Cadmium | 1.1E-03 lb/MMcf | (3) | 0.000 |
| Chromium | 1.4E-03 lb/MMcf | (3) | 0.000 |
| Cobalt | 8.4E-05 lb/MMcf | (3) | 0.000 |
| Dichlorobenzene | 1.2E-03 lb/MMcf | (4) | 0.000 |
| Formaldehyde | 7.5E-02 lb/MMcf | (4) | 0.000 |
| Hexane | 1.8E+00 lb/MMcf | (4) | 0.012 |
| Lead | 5.0E-04 lb/MMcf | (3) | 0.000 |
| Manganese | 3.8E-04 lb/MMcf | (3) | 0.000 |
| Mercury | 2.6E-04 lb/MMcf | (3) | 0.000 |
| Naphthalene | 6.1E-04 lb/MMcf | (4) | 0.000 |
| Nickel | 2.1E-03 lb/MMcf | (3) | 0.000 |
| PAH/POM | 1.3E-03 lb/MMcf | (4) | 0.000 |
| Selenium | 2.4E-05 lb/MMcf | (3) | 0.000 |
| Toluene | 3.4E-03 lb/MMcf | (4) | 0.000 |
| Total HAP | 1.9E+00 lb/MMCF | | 0.012 |
| Greenhouse Gas Emissions | | | |
| CO ₂ | 116.89 lb/MMBtu | (5) | 7.68E+02 |
| CH ₄ | 2.2E-03 lb/MMBtu | (5) | 1.45E-02 |
| N ₂ O | 2.2E-04 lb/MMBtu | (5) | 1.65E-07 |
| CO ₂ e ^(b) | - | | 768.323 |

Calculations:

(a) Annual emissions (tons/yr) = [Annual Usage (MMBtu/yr or MMCF/yr)] x [Number of Identical Heaters] x [Emission Factor (lb/MMBtu or lb/MMCF)] / [2,000 lb/ton]

Number of Heaters= 1
 Fuel Use (MMBtu/hr) = 1.5
 Hours of Operation (hr/yr)= 8760
 MMBtu/MMcf= 1020
 PTE Fuel Use (MMcf/yr) = 12.9

(b) CO₂ equivalent = [(CO₂ emissions)*(GWP_{CO2})]+[(CH₄ emissions)*(GWP_{CH4})]+[(N₂O emissions)*(GWP_{N2O})]
 Global Warming Potential (GWP)

| | | |
|------------------|-----|-----|
| CO ₂ | 1 | (6) |
| CH ₄ | 25 | (6) |
| N ₂ O | 298 | (6) |

Notes:

(1) AP-42, Chapter 1.4, Table 1.4-2. Emission Factors For Criteria Pollutants and Greenhouse Gases From Natural Gas Combustion, July 1998.

(2) AP-42, Chapter 1.4, Table 1.4-1. Emission Factors For Nitrogen Oxides (Nox) and Carbon Monoxide(CO) From Natural Gas Combustion, July 1998.

| | | | |
|------------------------------------|----------------------|-------------|--------------|
| Pneumatic Valves | 9.9E-03 lb/hr/source | (1) | 21.72 |
| | 9.9E-03 lb/hr/source | (1) | 4.34 |
| | 8.6E-04 lb/hr/source | (1) | 4.52 |
| | 4.4E-04 lb/hr/source | (1) | 2.32 |
| | 1.9E-02 lb/hr/source | (1) | 37.46 |
| Components in Gas Service Released | - | | 70.36 |
| Released (gas service) | | (b) | 3.52 |
| | | CO2e | 81.80 |

Emissions (tons/yr) = [Emission Factor (lb/hr/source)] x [Number of Sources] x [Hours of Operation per Year] x [0.0005]

Based on Hamon gas analysis as worst case at 5 wt % VOC

Components in Gas Service

| | | |
|-------------------------------|-------|-----|
| Valves= | 500 | (2) |
| Low Bleed Pneumatic Valves= | 100 | (2) |
| Connectors= | 1,200 | (2) |
| Other Points in Gas Service = | 200 | (2) |
| Maximum Hour of Operation = | 8,760 | |

Factors from 1995 EPA Protocol for Equipment Leak Emission Estimates, Table 2-4 Oil and Gas Production
 Emission estimate from GP12.1 LDAR Count