VENTURE OIL & GAS, INC.
OIL AND GAS EXPLORATION, DEVELOPMENT & OPERATIONS

140 MAYFAIR ROAD, SUITE 900
HATTIESBURG, MS 39402

PHONE: 601-428-7725
Fax: 601-450-4448

October 16, 2023

Ms. Krystal Rudolph, P.E. Chief
Environmental Permits Division
Mississippi Department of Environmental Quality
PO Box 2261
Jackson, MS 39225-2261

Dear Ms. Rudolph:

Re: Venture Oil & Gas Inc. Stringer 8-11 No. 1 Tank Battery
MSOPGP 2500-00094, AI # 73258
Oil Production General Permit Modification NOI

Venture Oil & Gas Inc. is submitting the enclosed NOI for modification of coverage under the Oil Production General Permit for the Stringer 8-11 No. 1 facility in Smith County, MS. The modification is for the operation of a glycol dehydration unit to remove water from the sales gas. Also enclosed is a copy of the public notice which is to be published October 18, 2023.

If you have any questions, please feel free to contact me at (601) 428-2257.

Sincerely,

Dan Watts
HSE Director

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OCT 19 2023
Dept. of Environmental Quality

Oil Production General Permit Public Notice
Mississippi Environmental Quality Permit Board
P. O. Box 2261
Jackson, Mississippi 39225
Telephone No. (601) 961-5171

**Public Notice Start Date: *10/18/2023***

Venture Oil & Gas Stringer 8-11 No. 1 facility located at Lat. 31.84957, Long -89.32691, Smith county, MS, approximately 4.4 miles west-south west of Stringer, MS, off of Smith County Road 7, in Section 8, T10N, R13W, (601) 518-0622, has applied to the Mississippi Department of Environmental Quality (MDEQ) for modification of coverage MSOPG 2500-00094 under MDEQ's Oil Production General Permit to construct and operate an oil production facility.

The Oil Production General Permit has been developed to ensure compliance with all State and Federal regulations. Facilities granted coverage under this permit and adhering to the conditions contained therein should operate within State and Federal environmental laws and standards concerning the operation of air emissions equipment.

The proposed project consists of construction and operation of a glycol dehydration unit to remove water from the field sales gas. The facility will operate control(s) such that criteria pollutant emissions will not exceed emission rates restricted in the Oil Production General Permit, nor will hazardous air pollutant (HAP) emissions exceed any HAP emission rates restricted in the Oil Production General Permit. This project will result in new sources of potential emissions of regulated air pollutants. However, emissions will be below the Prevention of Significant Deterioration significance levels as specified in the Mississippi Regulations for the Prevention of Significant Deterioration of Air Quality, 11 Miss. Admin. Code Pt. 2, Ch. 5., and in 40 CFR Part 52.21. Potential emissions will also be below the Air Title V Major Source thresholds as specified in 11 Miss. Admin. Code Pt. 2, Ch. 6. and in 40 CFR Part 70.

Persons wishing to comment upon or object to the proposed request are invited to submit comments in writing to the **Air 1 Branch Chief, Environmental Permits Division** at the Permit Board's address shown above no later than 30-days from the date of publication of this notice. All comments received or postmarked by this date will be considered in the determination regarding the coverage approval. After receipt of public comments and thorough consideration of all comments, MDEQ will formulate its recommendations regarding coverage approval.

Additional details about the proposed project are available by writing or calling the **Air 1 Branch Chief, Environmental Permits Division** at the above Permit Board address and telephone number and on the MDEQ's website at: https://www.mdeq.ms.gov/ensearch/recently-received-general-permit-noi/. This information is also available for review at the following locations during normal business hours:

Mississippi Department of Environmental Quality
Office of Pollution Control
515 East Amite Street,
Jackson, MS 39201
(601) 961-5171

Floyd J. Robinson Memorial Library
150 Main Street
Raleigh, MS 39153

Please bring the foregoing to the attention of persons whom you know will be interested.

# MODIFICATION
# OIL PRODUCTION GENERAL PERMIT NOTICE OF INTENT

ORIGINAL

VENTURE OIL & GAS, INC
Stringer 8-11 No. 1 Facility
Smith County, Mississippi

RECEIVED
OCT 19 2023
MDEQ

Submittal Date: October, 2023

PREPARED BY:

**FC&E ENGINEERING, LLC**
917 MARQUETTE ROAD
BRANDON, MISSISSIPPI 39042
(601) 824-1860

FC&E Engineering, LLC
Water ▪ Soils ▪ Air ▪ Compliance

AI 73258 rec'd 10/19/2023 MSOPGP 2500-00094

# MDEQ NOTICE OF INTENT FOR COVERAGE UNDER THE OIL PRODUCTION GENERAL PERMIT TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE

**Facility (Agency Interest) Information** | **Section OPGP - A**

## 1. Name, Address, and Location of Facility

A. Owner/Company Name: Venture Oil & Gas Inc.

B. Facility Name (*if different than A. above*): Venture Stringer 8-11 No. 1 Facility

C. Facility Air Permit/Coverage No. (*if known*): 2500-00094

D. Agency Interest No. (*if known*): 73258

E. Physical Address

1. Street Address: Field Road off of County Road 7
2. City: Taylorsville
3. State: MS
4. County: Smith
5. Zip Code: 39168
6. Telephone No.: 601-518-0622
7. Fax No.:
8. Are facility records kept at this location? ☐ Yes ☑ No. Please complete Item 10.

F. Mailing Address

1. Street Address or P.O. Box: 207 South 13th Avenue
2. City: Laurel
3. State: MS
4. Zip Code: 39440

G. Latitude/Longitude Data

1. Collection Point (*check one*):
   ☐ Site Entrance ☑ Other: Well head
2. Method of Collection (*check one*):
   ☐ GPS Specify coordinate system (NAD 83, etc.)
   ☑ Map Interpolation (Google Earth, etc.) ☐ Other:
3. Latitude (*degrees/minutes/seconds*): 31/50/58.4514
4. Longitude (*degrees/minutes/seconds*): neg89/19/36.8754
5. Elevation (*feet*): 425

H. SIC Code: 1311

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OCT 19 2023
MDEQ

## 2. Name and Address of Facility Contact

A. Name: Dan Watts Title: EHS Director

B. Mailing Address

1. Street Address or P.O. Box: 140 Mayfair road, Suite 900
2. City: hattiesburg
3. State: MS
4. Zip Code: 39402
5. Fax No.: 601-450-4448
6. Telephone No.: 601-319-4158
7. Email: dwatts@venture-inc.com

TRM

# MDEQ NOTICE OF INTENT FOR COVERAGE UNDER THE OIL PRODUCTION GENERAL PERMIT TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE

**Facility (Agency Interest) Information** | **Section OPGP - A**

**3. Name and Address of Air Contact (*if different from Facility Contact*)**

A. Name: _____ Title: _____

B. Mailing Address

1. Street Address or P.O. Box: _____
2. City: _____ 3. State: _____
4. Zip Code: _____ 5. Fax No.: _____
6. Telephone No.: _____
7. Email: _____

**4. Name and Address of Responsible Official for the Facility**

*The Form must be signed by a Responsible Official as defined in 11 Miss. Admin. Code Pt.2, R. 2.1.C(24).*

A. Name: Adam Barham Title: VP-operations

B. Mailing Address

1. Street Address or P.O. Box: 140 Mayfair road, Suite 900
2. City: Hattiesburg 3. State: MS
4. Zip Code: 39402 5. Fax No.: 601-450-4448
6. Telephone No.: 601-518-0622
7. Email: abarham@venture-inc.com

C. Is the person above a duly authorized representative and not a corporate officer?

☐ Yes ☑ No

If yes, has written notification of such authorization been submitted to MDEQ?

☐ Yes ☐ No ☐ Request for authorization is attached

**5. Type of Oil Production Notice of Intent (*Check all that apply*)**

☐ Initial Coverage ☐ Re-Coverage for existing Coverage

☑ Modification with Public Notice ☐ Modification without Public Notice

☐ Update Compliance Plan

# MDEQ NOTICE OF INTENT FOR COVERAGE UNDER THE OIL PRODUCTION GENERAL PERMIT TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE

**Facility (Agency Interest) Information** | **Section OPGP - A**

**6. Equipment List (*Check all that apply*)**

*Complete supporting emission calculations must be included for each potential emission unit selected below.*

- ☑ Heater Treater. Include a completed Section OPGP-C Form for each unit.
- ☑ Condensation Storage Vessel. Include a completed Section OPGP-E Form for each unit.
- ☑ Water Storage Vessel. Include a completed Section OPGP-E Form for each unit.
- ☑ Internal Combustion Engine. Include a completed Section OPGP-D Form for each unit.
- ☑ Flare. Include a completed Section OPGP-F Form for each unit.
- ☑ Oil Truck Loading (Section OPGP-B Form)
- ☑ Component Fugitive Emissions (Section OPGP-B Form)
- ☐ Other: _____

**7. Process/Product Details**

Maximum Anticipated Well(s) Production for Faciltiy:

| Produced Material | Throughput | Units |
|---|---|---|
| Gas | 6 | MMCF/day |
| Oil | 350 | barrels/day |
| Water | 10 | barrels/day |
| Other (Specify) | | |

Maximum Anticipated Throughput for Principal Product(s) (*as applicable*):

| Produced Material | Throughput | Units |
|---|---|---|
| Flared Gas | 6 | MMCF/day |
| Oil | 350 | barrels/day |
| Water | 10 | barrels/day |
| Other (Specify) | | |

**8. Zoning**

A. Is the facility (either existing or proposed) located in accordance with any applicable city and/or county zoning ordinances? If no, please explain
Yes

B. Is the facility (either existing or proposed) required to obtain any zoning variance to locate/expand the facility at this site? If yes, please explain.
No

C. Is the required USGS quadrangle map or equivalent attached? ☑ Yes ☐ No

# MDEQ NOTICE OF INTENT FOR COVERAGE UNDER THE OIL PRODUCTION GENERAL PERMIT TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE

**Facility (Agency Interest) Information** | **Section OPGP - A**

## 9. MS Secretary of State Registration / Certificate of Good Standing

*No permit will be issued to a company that is not authorized to conduct business in Mississippi. If the company applying for the permit is a corporation, limited liability company, a partnership or a business trust, the application package should include proof of registration with the Mississippi Secretary of State and/or a copy of the company's Certificate of Good Standing. The name listed on the permit will include the company name as it is registered with the Mississippi Secretary of State.*

*It should be noted that for an application submitted in accordance with 11 Miss. Admin. Code Pt. 2, R. 2.8.B. to renew a State Permit to Operate or in accordance with 11 Miss. Admin. Code Pt. 2, R. 6.2.A(1)(c). to renew a Title V Permit to be considered timely and complete, the applicant shall be registered and in good standing with the Mississippi Secretary of State to conduct business in Mississippi.*

## 10. Address and Location of Facility Records

Physical Address

1. Street Address: 140 mayfair Road, Suite 900
2. City: Hattiesburg
3. State: MS
4. County: Forrest
5. Zip Code: 39402
6. Telephone No.: 601-518-0622
7. Fax No.: 601-450-4448

# MDEQ NOTICE OF INTENT FOR COVERAGE UNDER THE OIL PRODUCTION GENERAL PERMIT TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE

| Facility (Agency Interest) Information | Section OPGP - A |
|---|---|

## 11. Certification

*The Form must be signed by a Responsible Official as defined in 11 Miss. Admin. Code Pt. 2, R. 2.1.C.(24).*

*I certify that to the best of my knowledge and belief formed after reasonable inquiry, the statements and information in this application are true, complete, and accurate, and that as a responsible official, my signature shall constitute an agreement that the applicant assumes the responsibility for any alteration, additions, or changes in operation that may be necessary to achieve and maintain compliance with all applicable Rules and Regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.*

| Signature of Responsible Official/DAR | Date |
|---|---|
| | 10/17/2023 |

| Printed Name | Date |
|---|---|
| Adam Barham | |

## Section B.1: Maximum Uncontrolled Emissions (under normal operating conditions)

Maximum Uncontrolled Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless otherwise approved by the Department. List Hazardous Air Pollutants (HAP) in Section B.3 and GHGs in Section B.4. Emission Point numbering must be consistent throughout the application package and, for existing emission points, should match any MDEQ ID's in the current permit. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Emissions > 0.01 TPY must be included. Please do not change the column widths on this table.

| Emission | TSP[1] (PM) | | PM-10[1] | | PM-2.5[1] | | $SO_2$ | | NOx | | CO | | VOC | | TRS[2] | | Lead | | Total HAPs | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Point ID | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr |
| AA-001 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 61.18 | 267.96 | 0.00 | 0.00 | 0.00 | 0.00 | 5.5871 | 24.4714 |
| AA-001a | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0001 | 0.0004 |
| AA-002 | 0.01 | 0.05 | 0.02 | 0.10 | 0.02 | 0.10 | 0.00 | 0.00 | 2.70 | 11.83 | 4.55 | 19.91 | 0.04 | 0.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0480 | 0.2103 |
| AA-002a | 0.01 | 0.06 | 0.03 | 0.13 | 0.03 | 0.13 | 0.00 | 0.00 | 3.27 | 14.34 | 5.51 | 24.13 | 0.04 | 0.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0480 | 0.2103 |
| AA-003 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0036 | 0.0159 |
| AA-004 | Routed to AA-001 | | | | | | | | | | | | | | | | | | | |
| AA-005 | Routed to AA-001 | | | | | | | | | | | | | | | | | | | |
| AA-006 | Routed to AA-001 | | | | | | | | | | | | | | | | | | | |
| AA-006a | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.05 | 0.21 | 0.04 | 0.18 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0009 | 0.0041 |
| AA-007 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0043 | 0.0190 |
| AA-008 | Routed to AA-001 | | | | | | | | | | | | | | | | | | | |
| AA-009 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 117.72 | 16.76 | 0.00 | 0.00 | 0.00 | 0.00 | 5.2676 | 0.7498 |
| AA-010 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.11 | 0.01 | 0.09 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0005 | 0.0020 |
| AA-011 | 0.00 | 0.00 | 0.00 | 0.008 | 0.00 | 0.008 | 0.00 | 0.00 | 0.02 | 0.11 | 0.02 | 0.09 | 0.00 | 0.01 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0.00 |
| AA-011a | – | – | – | – | – | – | – | – | – | – | – | – | – | 4.24 | – | – | – | – | 0.32 | 1.41 |
| AA-011b | – | – | – | – | – | – | – | – | – | – | – | – | – | 4.15 | – | – | – | – | 0.00 | 0.00 |
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| Totals | 0.03 | 0.12 | 0.06 | 0.26 | 0.06 | 0.26 | 0.00 | 0.01 | 6.06 | 26.61 | 10.13 | 44.40 | 179.06 | 293.81 | 0.00 | 0.00 | 0.00 | 0.00 | 11.28 | 27.10 |

[1] **Condensables:** Include condensable particulate matter emissions in particulate matter calculations for PM-10 and PM-2.5, but not for TSP (PM).

[2] **TRS:** Total reduced sulfur (TRS) is the sum of the sulfur compounds hydrogen sulfide ($H_2S$), methyl mercaptan ($CH_4S$), dimethyl sulfide ($C_2H_6S$), and dimethyl disulfide ($C_2H_6S_2$).

# Section B.2: Proposed Allowable Emissions

Proposed Allowable Emissions (Potential to Emit) are those emissions the facility is currently permitted to emit as limited by a specific permit requirement or federal/state standard (e.g., a MACT standard); or the emission rate at which the facility proposes to emit considering emissions control devices, restrictions to operating rates/hours, or other requested permit limits that reduce the maximum emission rates. Emission Point numbering must be consistent throughout the application package and, for existing emission points, should match any MDEQ ID's in the current permit. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Additional columns may be added if there are regulated pollutants (other than HAPs and GHGs) emitted at the facility.

| Emission Point ID | TSP[1] | | PM10[1] | | PM2.5[1] | | $SO_2$ | | NOx | | CO | | VOC | | TRS | | Lead | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr |
| AA-001 | 0.00 | 0.02 | 0.02 | 0.07 | 0.02 | 0.07 | 0.000 | 0.00 | 0.15 | 0.68 | 0.70 | 3.09 | 1.22 | 5.36 | 0.00 | 0.00 | 0.00 | 0.00 |
| AA-001a | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.000 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| AA-002 | 0.01 | 0.05 | 0.02 | 0.104 | 0.02 | 0.104 | 0.001 | 0.004 | 2.70 | 11.83 | 4.55 | 19.91 | 0.04 | 0.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| AA-002a | 0.01 | 0.05 | 0.02 | 0.094 | 0.02 | 0.094 | 0.001 | 0.003 | 2.45 | 10.75 | 4.13 | 18.10 | 0.03 | 0.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| AA-003 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.28 | 0.00 | 0.00 | 0.00 | 0.00 |
| AA-004 | Routed to AA-001 | | | | | | | | | | | | | | | | | |
| AA-005 | Routed to AA-001 | | | | | | | | | | | | | | | | | |
| AA-006 | Routed to AA-001 | | | | | | | | | | | | | | | | | |
| AA-006a | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.05 | 0.21 | 0.04 | 0.18 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| AA-007 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| AA-008 | Routed to AA-001 | | | | | | | | | | | | | | | | | |
| AA-009 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 117.72 | 16.76 | 0.00 | 0.00 | 0.00 | 0.00 |
| AA-010 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.11 | 0.02 | 0.09 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| AA-011 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.11 | 0.02 | 0.09 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| AA-011a | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.24 | — | — | — | — |
| AA-011b | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.15 | — | — | — | — |
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| **Totals** | 0.03 | 0.12 | 0.07 | 0.30 | 0.07 | 0.30 | 0.00 | 0.01 | 5.41 | 23.71 | 9.47 | 41.47 | 119.09 | 31.17 | 0.00 | 0.00 | 0.00 | 0.00 |

[1] **Condensables:** Include condensable particulate matter emissions in particulate matter calculations for PM-10 and PM-2.5, but not for TSP (PM).

[2] **TRS:** Total reduced sulfur (TRS) is the sum of the sulfur compounds hydrogen sulfide ($H_2S$), methyl mercaptan ($CH_4S$), dimethyl sulfide ($C_2H_6S$), and dimethyl disulfide ($C_2H_6S_2$).

## Section B.3: Proposed Allowable Hazardous Air Pollutants (HAPs)

In the table below, report the Proposed Allowable Emissions (Potential to Emit) for each HAP from each regulated emission unit if the HAP > 0.0001 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources. Use the HAP nomenclature as it appears in the Instructions. Emission Point numbering must be consistent throughout the application package and, for existing emission points, should match any MDEQ ID's in the current permit. For each HAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above. Additional columns may be added as necessary to address each HAP.

| Emission Point ID | Total HAPs | | 1,1,2,2 - tetrachloroethane | | 1,1,2-trichloroethane | | 1,3-butadiene | | 1,3-dichloropropene | | acetaldehyde | | acrolein | | benzene | | carbon tetrachloride | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr |
| AA-001 | 0.1304 | 0.4894 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.0121 | 0.0531 | <0.0001 | <0.0001 |
| AA-001a | 0.0001 | 0.0004 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| AA-002 | 0.0396 | 0.1735 | <0.0001 | 0.0001 | <0.0001 | 0.0001 | 0.0008 | 0.0035 | <0.0001 | 0.0001 | 0.0034 | 0.0149 | 0.0032 | 0.0141 | 0.0019 | 0.0085 | <0.0001 | 0.0001 |
| AA-002a | 0.0480 | 0.2103 | <0.0001 | 0.0002 | <0.0001 | 0.0001 | 0.0010 | 0.0043 | <0.0001 | 0.0001 | 0.0041 | 0.0181 | 0.0039 | 0.0171 | 0.0023 | 0.0102 | <0.0001 | 0.0001 |
| AA-003 | 0.0036 | 0.0159 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.0003 | 0.0012 | <0.0001 | <0.0001 |
| AA-004 | Routed to AA-001 | | | | | | | | | | | | | | | | | |
| AA-005 | Routed to AA-001 | | | | | | | | | | | | | | | | | |
| AA-006 | Routed to AA-001 | | | | | | | | | | | | | | | | | |
| AA-006a | 0.0009 | 0.0041 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| AA-007 | 0.0043 | 0.0190 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| AA-008 | Routed to AA-001 | | | | | | | | | | | | | | | | | |
| AA-009 | 5.2676 | 0.7498 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.5648 | 0.0804 | <0.0001 | <0.0001 |
| AA-010 | 0.00047 | 0.00205 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| AA-011 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| AA-011a | 0.32091 | 1.4056 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.2932 | 1.2842 | <0.01 | <0.01 |
| AA-011b | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
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| **Totals:** | 5.8160 | 3.0701 | 0.0000 | 0.0003 | 0.0000 | 0.0002 | 0.0018 | 0.0078 | 0.0000 | 0.0002 | 0.0075 | 0.0330 | 0.0071 | 0.0311 | 0.8747 | 1.4376 | 0.0000 | 0.0002 |

## Section B.3: Proposed Allowable Hazardous Air Pollutants (HAPs)

In the table below, report the Proposed Allowable Emissions (Potential to Emit) for each HAP from each regulated emission unit if the HAP > 0.0001 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources. Use the HAP nomenclature as it appears in the Instructions. Emission Point numbering must be consistent throughout the application package and, for existing emission points, should match any MDEQ ID's in the current permit. For each HAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above. Additional columns may be added as necessary to address each HAP.

| Emission Point ID | Total HAPs | | chlorobenzene | | chloroform | | ethylbenzene | | ethylene dibromide | | formaldehyde | | methanol | | methylene chloride | | naphthalene | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr |
| AA-001 | 0.1414 | 0.4894 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.0006 | 0.0028 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| AA-001a | 0.0001 | 0.0004 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| AA-002 | 0.0396 | 0.1735 | <0.0001 | 0.0001 | <0.0001 | 0.0001 | <0.0001 | 0.0001 | <0.0001 | 0.0001 | 0.0250 | 0.1097 | 0.0037 | 0.0164 | 0.0001 | 0.0002 | 0.0001 | 0.0005 |
| AA-002a | 0.0227 | 0.2103 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.0002 | <0.0001 | 0.0001 | 0.0304 | 0.1330 | 0.0045 | 0.0198 | <0.0001 | 0.0003 | 0.0001 | 0.0006 |
| AA-003 | 0.0036 | 0.0159 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| AA-004 | Routed to AA-001 | | | | | | | | | | | | | | | | <0.0001 | <0.0001 |
| AA-005 | Routed to AA-001 | | | | | | | | | | | | | | | | <0.0001 | <0.0001 |
| AA-006 | Routed to AA-001 | | | | | | | | | | | | | | | | <0.0001 | <0.0001 |
| AA-006a | 0.0009 | 0.0041 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.0002 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| AA-007 | 0.0043 | 0.0190 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| AA-008 | Routed to AA-001 | | | | | | | | | | | | | | | | <0.0001 | <0.0001 |
| AA-009 | 5.2676 | 0.7498 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.0216 | 0.0031 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| AA-010 | 0.0005 | 0.0020 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| AA-011 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| AA-011a | 0.32091 | 1.4056 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| AA-011b | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
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| **Totals:** | 5.8017 | 3.0701 | 0.0000 | 0.0001 | 0.0000 | 0.0001 | 0.0222 | 0.0062 | 0.0000 | 0.0003 | 0.0554 | 0.2429 | 0.0083 | 0.0362 | 0.0001 | 0.0005 | 0.0003 | 0.0011 |

## Section B.3: Proposed Allowable Hazardous Air Pollutants (HAPs)

In the table below, report the Proposed Allowable Emissions (Potential to Emit) for each HAP from each regulated emission unit if the HAP > 0.0001 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources. Use the HAP nomenclature as it appears in the Instructions. Emission Point numbering must be consistent throughout the application package and, for existing emission points, should match any MDEQ ID's in the current permit. For each HAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above. Additional columns may be added as necessary to address each HAP.

| Emission Point ID | Total HAPs | | PAH | | styrene | | toluene | | vinyl chloride | | xylene | | n-hexane | | POM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr |
| AA-001 | 0.1414 | 0.4894 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.0142 | 0.0621 | <0.0001 | <0.0001 | 0.0089 | 0.0388 | 0.0759 | 0.3326 | <0.0001 | <0.0001 | | |
| AA-001a | 0.0001 | 0.0004 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.0001 | 0.0004 | <0.0001 | <0.0001 | | |
| AA-002 | 0.0396 | 0.1735 | 0.0002 | 0.0008 | <0.0001 | 0.0001 | 0.0007 | 0.0030 | <0.0001 | <0.0001 | 0.0002 | 0.0010 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | | |
| AA-002a | 0.0227 | 0.2103 | 0.0002 | 0.0009 | <0.0001 | <0.0001 | 0.0008 | 0.0036 | <0.0001 | <0.0001 | 0.0003 | 0.0013 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | | |
| AA-003 | 0.0036 | 0.0159 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.0002 | 0.0009 | <0.0001 | <0.0001 | 0.0001 | 0.0005 | 0.0030 | 0.0133 | <0.0001 | <0.0001 | | |
| AA-004 | Routed to AA-001 | | | | | | | | | | | | | | | | | |
| AA-005 | Routed to AA-001 | | | | | | | | | | | | | | | | | |
| AA-006 | Routed to AA-001 | | | | | | | | | | | | | | | | | |
| AA-006a | 0.0009 | 0.0041 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.0009 | 0.0039 | <0.0001 | 0.0001 | | |
| AA-007 | 0.0043 | 0.0190 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | | |
| AA-008 | Routed to AA-001 | | | | | | | | | | | | | | | | | |
| AA-009 | <0.0001 | 0.7498 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.5593 | 0.0796 | <0.0001 | <0.0001 | 0.2946 | 0.0419 | 3.8273 | 0.5448 | <0.0001 | <0.0001 | | |
| AA-010 | 0.00047 | 0.00205 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.00044 | 0.00193 | <0.0001 | <0.0001 | | |
| AA-011 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | | |
| AA-011a | 0.32091 | 1.4056 | <0.01 | <0.01 | <0.01 | <0.01 | 0.0233 | 0.1021 | <0.01 | <0.01 | 0.0042 | 0.0184 | <0.01 | <0.01 | <0.01 | <0.01 | | |
| AA-011b | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | | |
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| **Totals:** | 0.5341 | 3.0701 | 0.0004 | 0.0017 | 0.0000 | 0.0001 | 0.5985 | 0.2514 | 0.0000 | 0.0000 | 0.3083 | 0.1019 | 3.9077 | 0.8969 | 0.0000 | 0.0001 | | |

# Section B.4: Greenhouse Gas Emissions

Applicants must report potential emission rates in SHORT TONS per year, as opposed to metric tons required by Part 98. Emission Point numbering must be consistent throughout the application package and, for existing emission points, should match any MDEQ ID's in the current permit.

| | | $CO_2$ (non-biogenic) ton/yr | $CO_2$ (biogenic)[2] ton/yr | $N_2O$ ton/yr | $CH_4$ ton/yr | $SF_6$ ton/yr | PFC/HFC[3] ton/yr | | | | | Total GHG Mass Basis ton/yr[5] | Total $CO_2e$ ton/yr[6] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Emission Point ID | GWPs [1] | 1 | 1 | 298 | 25 | 22,800 | footnote 4 | | | | | | |
| AA-001 | mass GHG | 1595.34 | 0 | 0.00 | 0.39 | 0 | 0 | | | | | 1595.73 | N/A |
| | CO2e | 1595.34 | 0 | 0.33 | 9.84 | 0 | 0 | | | | | N/A | 1605.51 |
| AA-001a | mass GHG | 25.59 | 0 | 0.00 | 0.00 | 0 | 0 | | | | | 25.59 | N/A |
| | CO2e | 25.59 | 0 | 0.01 | 0.01 | 0 | 0 | | | | | N/A | 25.62 |
| AA-002 | mass GHG | 624.23 | 0 | 0.00 | 0.01 | 0 | 0 | | | | | 624.24 | N/A |
| | CO2e | 624.23 | 0 | 0.35 | 0.29 | 0 | 0 | | | | | N/A | 624.88 |
| AA-002a | mass GHG | 756.64 | 0 | 0.00 | 0.01 | 0 | 0 | | | | | 756.66 | N/A |
| | CO2e | 756.64 | 0 | 0.43 | 0.36 | 0 | 0 | | | | | N/A | 757.43 |
| AA-003 | mass GHG | 0.03 | 0 | 0.00 | 0.33 | 0 | 0 | | | | | 0.35 | N/A |
| | CO2e | 0.03 | 0 | 0.00 | 8.18 | 0 | 0 | | | | | N/A | 8.21 |
| AA-004 | mass GHG | 0 | 0 | 0 | 0 | 0 | 0 | | | | | 0.00 | N/A |
| | CO2e | 0 | 0 | 0 | 0 | 0 | 0 | | | | | N/A | 0.00 |
| AA-005 | mass GHG | 0 | 0 | 0 | 0 | 0 | 0 | | | | | 0.00 | N/A |
| | CO2e | 0 | 0 | 0 | 0 | 0 | 0 | | | | | N/A | 0.00 |
| AA-006 | mass GHG | 0 | 0 | 0 | 0 | 0 | 0 | | | | | 0.00 | N/A |
| | $CO_2e$ | 0 | 0 | 0 | 0 | 0 | 0 | | | | | N/A | 0.00 |
| AA-006a | mass GHG | 255.45 | 0 | 0.00 | 0.00 | 0 | 0 | | | | | 255.46 | N/A |
| | $CO_2e$ | 255.45 | 0 | 0.14 | 0.12 | 0 | 0 | | | | | N/A | 255.71 |
| AA-007 | mass GHG | 0 | 0 | 0 | 0 | 0 | 0 | | | | | 0.00 | N/A |
| | $CO_2e$ | 0 | 0 | 0 | 0 | 0 | 0 | | | | | N/A | 0.00 |
| AA-008 | mass GHG | 0 | 0 | 0 | 0 | 0 | 0 | | | | | 0.00 | N/A |
| | $CO_2e$ | 0 | 0 | 0 | 0 | 0 | 0 | | | | | N/A | 0.00 |
| AA-009 | mass GHG | 0.03 | 0.00 | 0.00 | 0.18 | 0.00 | 0.00 | | | | | 0.21 | N/A |
| | $CO_2e$ | 0.03 | 0.00 | 0.00 | 4.50 | 0.00 | 0.00 | | | | | N/A | 4.53 |
| AA-011 | mass GHG | 128 | 0 | 0.00 | 4 | 0.00 | 0.00 | | | | | 131.30 | N/A |
| | $CO_2e$ | 128 | 0 | 0.07 | 89.33 | 0.00 | 0.00 | | | | | N/A | 217.12 |
| AA-010 | mass GHG | 127.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | 127.73 | N/A |
| | $CO_2e$ | 127.73 | 0.00 | 0.07 | 0.06 | 0.00 | 0.00 | | | | | N/A | 127.86 |
| FACILITY TOTAL | mass GHG | 3512.76 | 0 | 0.00 | 4.51 | 0.00 | 0.00 | | | | | 3517.28 | N/A |
| | $CO_2e$ | 3512.76 | 0 | 1.40 | 112.69 | 0.00 | 0.00 | | | | | N/A | 3626.86 |

[1] **GWP** (Global Warming Potential): Applicants must use the most current GWPs codified in Table A-1 of 40 CFR part 98. GWPs are subject to change, therefore, applicants need to check 40 CFR 98 to confirm GWP values.

[2] Biogenic CO2 is defined as carbon dioxide emissions resulting from the combustion or decomposition of non-fossilized and biodegradable organic material originating from plants, animals, or micro-organisms.

[3] For **HFCs** or **PFCs** describe the specific HFC or PFC compound and use a separate column for each individual compound.

[4] For each new compound, enter the appropriate GWP for each HFC or PFC compound from Table A-1 in 40 CFR 98.

[5] Greenhouse gas emissions on a mass basis is the ton per year greenhouse gas emission before adjustment with its GWP. Do not include biogenic $CO_2$ in this total.

[6] $CO_2e$ means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the greenhouse gas by its GWP. Do not include biogenic $CO_2e$ in this total.

## Section B.5: Stack Parameters and Exit Conditions

Emission Point numbering must be consistent throughout the application package and, for existing emission points, should match any MDEQ ID's in the current permit.

| Emission Point ID | Orientation (H-Horizontal V=Vertical) | Rain Caps (Yes or No) | Height Above Ground (ft) | Base Elevation (ft) | Exit Temp. (°F) | Inside Diameter or Dimensions (ft) | Velocity (ft/sec) | Moisture by Volume (%) | Geographic Position (degrees/minutes/seconds) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Latitude | Longitude |
| AA-001 | H | No | 40 | 415 | 1800 | 0.50 | 100 | TBD | 31/50/58.4514 | 89/19/36.8754 |
| AA-002 | H | Yes | 7 | 415 | TBD | TBD | TBD | TBD | 31/50/58.4514 | 89/19/36.8754 |
| AA-002a | H | yes | 7 | 415 | TBD | TBD | TBD | TBD | 31/50/58.4514 | 89/19/36.8754 |
| AA-003 | N/A-Fugitives | N/A | N/A | 415 | N/A | N/A | N/A | N/A | 31/50/58.4514 | 89/19/36.8754 |
| AA-004 | N/A-Separator | N/A | N/A | 415 | N/A | N/A | N/A | N/A | 31/50/58.4514 | 89/19/36.8754 |
| AA-005 | N/A-Separator | N/A | N/A | 415 | N/A | N/A | N/A | N/A | 31/50/58.4514 | 89/19/36.8754 |
| AA-006 | N/A-Heater Treater | N/A | N/A | 415 | N/A | N/A | N/A | N/A | 31/50/58.4514 | 89/19/36.8754 |
| AA-006a | TBD | TBD | TBD | 415 | TBD | TBD | TBD | TBD | 31/50/58.4514 | 89/19/36.8754 |
| AA-007 | N/A-Tanks | N/A | N/A | 415 | N/A | N/A | N/A | N/A | 31/50/58.4514 | 89/19/36.8754 |
| AA-008 | N/A-Tanks | N/A | N/A | 415 | N/A | N/A | N/A | N/A | 31/50/58.4514 | 89/19/36.8754 |
| AA-009 | N/A-Truck Loading | N/A | N/A | 415 | N/A | N/A | N/A | N/A | 31/50/58.4514 | 89/19/36.8754 |
| AA-010 | TBD | TBD | TBD | 415 | N/A | TBD | TBD | TBD | 31/50/58.4514 | 89/19/36.8754 |
| AA-011 | V | yes | 10 | 415 | 700 | 0.15 | TBD | TBD | 31/50/58.4514 | 89/19/36.8754 |
| AA-011a | V | yes | 15 | 415 | 120 | 0.25 | TBD | TBD | 31/50/58.4514 | 89/19/36.8754 |
| AA-011b | V | yes | 15 | 415 | 200 | 0.5 | TBD | TBD | 31/50/58.4514 | 89/19/36.8754 |

[1] A WAAS-capable GPS receiver should be used and in the WGS84 or NAD83 coordinate system.

**MDEQ NOTICE OF INTENT FOR COVERAGE UNDER THE OIL PRODUCTION GENERAL PERMIT TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE**

# Fuel Burning Equipment – External Combustion Sources

# Section OPGP-C

## 1. Emission Point Description

A. Emission Point Designation (Ref. No.): AA-011

B. Equipment Description: TEG dehydrator

C. Manufacturer: custom D. Date of Manufacture and No.: 2015

E. Maximum Heat Input (higher heating value): 0.175 MMBtu/hr

F. Nominal Heat Input Capacity: 0.175 MMBtu/hr

G. Use: ☐ Line Heater ☐ Heater Treater ☒ TEG Burner

☐ Space Heat ☐ Process Heat ☐ Other (describe):

H. Heat Mechanism: ☐ Direct ☒ Indirect

I. Burner Type (e.g., forced draft, natural draft, etc.): Natural draft

J. Additional Design Controls (e.g., FGR, etc.):

K. Status: ☐ Operating ☐ Proposed ☐ Under Construction

## 2. Fuel Type

Complete the following table, identifying each type of fuel and the amount used. Specify the units for heat content, hourly usage, and yearly usage.

| FUEL TYPE | HEAT CONTENT | % SULFUR | % ASH | MAXIMUM HOURLY USAGE | MAXIMUM YEARLY USAGE |
|---|---|---|---|---|---|
| Nat gas | 1000 btu/scf | neg | neg | 175 scf | 63875 scf |
| | | | | | |
| | | | | | |
| | | | | | |
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Please list any fuel components that are hazardous air pollutants and the percentage in the fuel:

| MDEQ NOTICE OF INTENT FOR COVERAGE UNDER THE OIL PRODUCTION GENERAL PERMIT TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE | |
|---|---|
| **Compliance Plan** | **Section OPGP-G** |

## Part 1. Equipment List

List all equipment and the corresponding federal and/or state regulation that is applicable. Clearly identify federal regulations from state requirements. Provide the expected or actual construction date, startup date and removal date if the equipment is no longer on site.

| EMISSION UNIT (Ref No.) | FEDERAL or STATE REGULATION<br>Ex. 40 CFR Part ____, Subpart _____<br>Ex. 11 Miss. Admin. Code Pt. 2, R. 1.4.B(2). | CONSTRUCTION DATE | STARTUP DATE | REMOVAL DATE |
|---|---|---|---|---|
| Example: Engines | 40 CFR 63, Subpart ZZZZ | 10/01/2002 | 11/15/2019 | N/A |
| Example: Fugitive Emissions | 40 CFR 60, Subpart OOOOa | 10/01/2019 | 11/15/2019 | N/A |
| Example: Flare | 11 Miss. Admin. Code Pt. 2, R.1.4.B(2). | 12/01/2019 | 12/02/2019 | N/A |
| ***This list of examples is not intended to be conclusive for each type of emission source. This list only provides examples of how the table should be completed.*** | | | | |
| AA-001 Flare and facility wide | 11 Miss. Admin. Code Pt. 2, R.1.4.B(2). | 11/01/2023 (est.) | 05/01/2020 (est.) | N/A |
| AA-002, 002a Engines | 40 CFR 63, Subpart ZZZZ | 11/01/2023 (est.) | 5/01/2020 (est.) | N/A |
| AA-002, 002a, AA-006a, AA-010 | 11 Miss. Admin. Code Pt. 2, R.1.3.B. | 11/01/2023 (est.) | 5/01/2020 (est.) | N/A |
| AA-002, 002a AA-006a, AA-010 | 11 Miss. Admin. Code Pt. 2, R.1.3.D(1)(a). | 11/01/2023 (est.) | 5/01/2020 (est.) | N/A |
| AA-003 Fugitive Emissions | 40 CFR 60, Subpart OOOOa | 11/01/2023 (est.) | 5/01/2020 (est.) | N/A |

**MDEQ NOTICE OF INTENT FOR COVERAGE UNDER THE OIL PRODUCTION GENERAL PERMIT TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE**

## Compliance Plan — Section OPGP-G

## Part 1. Equipment List

List all equipment and the corresponding federal and/or state regulation that is applicable. Clearly identify federal regulations from state requirements. Provide the expected or actual construction date, startup date and removal date if the equipment is no longer on site.

| EMISSION UNIT (Ref No.) | FEDERAL or STATE REGULATION<br>Ex. 40 CFR Part _____, Subpart _____<br>Ex. 11 Miss. Admin. Code Pt. 2, R. 1.4.B(2). | CONSTRUCTION DATE | STARTUP DATE | REMOVAL DATE |
|---|---|---|---|---|
| AA-011 Dehydrator | 40 CFR 63, Subpart HH | 11/2023 | 11/2023 | |
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| MDEQ NOTICE OF INTENT FOR COVERAGE UNDER THE OIL PRODUCTION GENERAL PERMIT TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE | |
|---|---|
| **Compliance Plan** | **Section OPGP-G** |
| **Part 2. Applicable Requirements** | |
| List all applicable state and federal requirements, including emission limits, operating restrictions, etc., and the applicable test methods or monitoring used to demonstrate compliance with each applicable requirement. Clearly identify federal regulations from state requirements. Provide the compliance status as of the day the application is signed. | |

| EMISSION UNIT (Ref No.) | APPLICABLE REQUIREMENT (Specific Regulatory citation) | POLLUTANT | LIMITS/ REQUIREMENTS | TEST METHOD/ COMPLIANCE MONITORING |
|---|---|---|---|---|
| Example: Compressor | Item 8 of Table 2d of 40 CFR 63, Subpart ZZZZ | HAPs | Change oil and filter every 2,160 hours of operation or annually, whichever comes first; Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary. | Monitoring of compressor hours of operation |
| Example: Tanks | 40 CFR 60.5395(a)(2) | VOC and Methane | Must reduce VOC emissions by 95.0 percent within 60 days after startup of production. | Tank emissions are routed to the flare for destruction at all times of operations. |
| Example: Flare | 11 Miss. Admin. Code Pt. 2, R.1.4.B(2). | $H_2S$ | 1 grain $H_2S$ per 100 standard cubic feet (1 gr/100 scf) | Recordkeeping of H2S composition of gas by gas analysis; Maintenance of continuous flame for gas combustion. |
| ***This list of examples is not intended to be conclusive for each type of emission source. This list only provides examples of how the table should be completed.*** | | | | |
| AA-001, Flare & facility wide | 1 Miss. Admin. Code Pt. 2, R.1.4.B(2). | $H_2S$ | Any gas stream containing as much as 1 grain $H_2S$ per 100 standard cubic feet (1 gr/100 scf) must be incinerated prior to discharge to the atmosphere | Recordkeeping of H2S composition of gas by gas analysis; Maintenance of continuous flame for gas combustion. |
| AA-002, AA-002a, Engines | 40 CFR 63, subpart ZZZZ, (§63.6590(a)) | HAP | Applicability | Applicability Only |
| AA-002, AA-002a, Engines | 40 CFR 63, subpart ZZZZ, (§63.6603 & Table 2(d)) | HAP | Change oil and filter every 1,440 hours of operation or annually, whichever comes first; b. Inspect spark plugs every | Monitoring engine hours of operation |

| MDEQ NOTICE OF INTENT FOR COVERAGE UNDER THE OIL PRODUCTION GENERAL PERMIT TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE | |
|---|---|
| **Compliance Plan** | **Section OPGP-G** |

## Part 2. Applicable Requirements

List all applicable state and federal requirements, including emission limits, operating restrictions, etc., and the applicable test methods or monitoring used to demonstrate compliance with each applicable requirement. Clearly identify federal regulations from state requirements. Provide the compliance status as of the day the application is signed.

| EMISSION UNIT (Ref No.) | APPLICABLE REQUIREMENT (Specific Regulatory citation) | POLLUTANT | LIMITS/ REQUIREMENTS | TEST METHOD/ COMPLIANCE MONITORING |
|---|---|---|---|---|
| | | | 1,440 hours of operation or annually, whichever comes first, and replace as necessary c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. | |
| AA-002, AA-002a, Engines | 40 CFR 63, subpart ZZZZ, (§63.6605) | HAP | Contiuous compliance and General Duty to operate and maintain in a manner consistent with safety and good air pollution control practies to minimize emissions | Process Knowledge |
| AA-002, AA-002a, Engines | 40 CFR 63, subpart ZZZZ, (§63.6640 (a) and Table 6) | HAP | i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or<br>ii. Develop and follow your own maintenance plan | Process Knowledge |
| AA-002, AA-002a, Engines | 40 CFR 63, subpart ZZZZ, (§63.6655 (a),(d) and (e)) | HAP | Recordkeeping Requiremnts | Recordkeeping |
| AA-002, AA-002a, Engines | 40 CFR 63, subpart ZZZZ, (§63.6660 (a),(b) and (c)) | HAP | General recordkeeping requirements | Recordkeeping |
| AA-002, AA-002a, Engines | 40 CFR 63, subpart ZZZZ, (§63.6640 (b) | HAP | Report any failure to perform a required work practice as scheduled | Reporting |
| AA-002, AA-002a, Engines | 40 CFR 63, subpart ZZZZ, (§63.6665 (a) and Table 8) | HAP | Applicable requirements under 40 CFR 63 subpart A | Applicability |

**MDEQ NOTICE OF INTENT FOR COVERAGE UNDER THE OIL PRODUCTION GENERAL PERMIT TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE**

## Compliance Plan — Section OPGP-G

### Part 2. Applicable Requirements

List all applicable state and federal requirements, including emission limits, operating restrictions, etc., and the applicable test methods or monitoring used to demonstrate compliance with each applicable requirement. Clearly identify federal regulations from state requirements. Provide the compliance status as of the day the application is signed.

| EMISSION UNIT (Ref No.) | APPLICABLE REQUIREMENT (Specific Regulatory citation) | POLLUTANT | LIMITS/ REQUIREMENTS | TEST METHOD/ COMPLIANCE MONITORING |
|---|---|---|---|---|
| AA-003 Fugitive Emissions | 40 CFR 60.5365a(i) | VOC and Methane | Applicability | Applicability only |
| AA-003 Fugitive Emissions | 40 CFR 60.5397a(a-g) | VOC and Methane | Develop a fugitive emission monitoring plan | Upon Startup |
| AA-003 Fugitive Emissions | 40 CFR 60.5397a(h) | VOC and Methane | Fugitive emission source repair or replacement requirements | Written Plan development |
| AA-003 Fugitive Emissions | 40 CFR 60.5425a and Table 3 | VOC and Methane | Applicability of General Provisions of 40 CFR 60, Subpart A | Applicability only |
| AA-003 Fugitive Emissions | 40 CFR 60.5410a(j) | VOC and Methane | Demonstration of initial compliance | Monitoring |
| AA-003 Fugitive Emissions | 40 CFR 60.415a(h) | VOC and Methane | Demonstration of continuous compliance | Monitoring |
| AA-003 Fugitive Emissions | 40 CFR 60.5420a(c) | VOC and Methane | Recordkeeping requirements | Monitoring and Recordkeeping |
| AA-003 Fugitive Emissions | 40 CFR 60.5420a(b) | VOC and Methane | Reporting requirements | Reporting |
| AA-008 Storage Tanks | 40 CFR 60.5365a(e) | VOC and Methane | Applicability determination may take into account legally and practically enforceable limit on tank emissions | Applicability Only |

**MDEQ NOTICE OF INTENT FOR COVERAGE UNDER THE OIL PRODUCTION GENERAL PERMIT TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE**

## Compliance Plan — Section OPGP-G

### Part 2. Applicable Requirements

List all applicable state and federal requirements, including emission limits, operating restrictions, etc., and the applicable test methods or monitoring used to demonstrate compliance with each applicable requirement. Clearly identify federal regulations from state requirements. Provide the compliance status as of the day the application is signed.

| EMISSION UNIT (Ref No.) | APPLICABLE REQUIREMENT (Specific Regulatory citation) | POLLUTANT | LIMITS/ REQUIREMENTS | TEST METHOD/ COMPLIANCE MONITORING |
|---|---|---|---|---|
| AA-011 | 40 CFR 63.760(a)(1), (b)(2) | HAP | Applicability | Process Knowledge |
| AA-011 | 40 CFR 63.764(d)(2)(i), (ii) and (iii) | HAP | Determine optimum glycol recirculaton rate and operate so as not to exceed the optimum rate, maintain record of determination, submit Initial Notification, | Process knowledge |
| AA-011 | 40 CFR 63.764(j) | HAP | Operate and maintain in a manner consistent with safety and good air pollution control practices for minimizing emissions. | Process knowledge |
| AA-011 | 40 CFR 63.774(b)(1), (b)(2) and (g) | HAP | Recordkeeping requirements | Process knowledge |
| AA-011 | 40 CFR 63.775(c0(1) | HAP | Initial notification requirements | Process knowledge |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# FIGURES


FIGURE 2
STRINGER 8-11 NO. 1
LOCATION
Raleigh
Sylvarena
Mulberry
Fouke
Bay Springs
Acme
Mineral Springs
Mize
Stringer
31.84957,-89.32691
Taylorsville
Moss
Nina Daly
Mt Olive
Smith
Soso
Shady Grove
Hopewell
Calhoun
Laurel
Collins
Pendorff
Glade
Imagery Date: 11/27/2013 31°50'58.59" N 89°30'27.56" W elev 317 ft

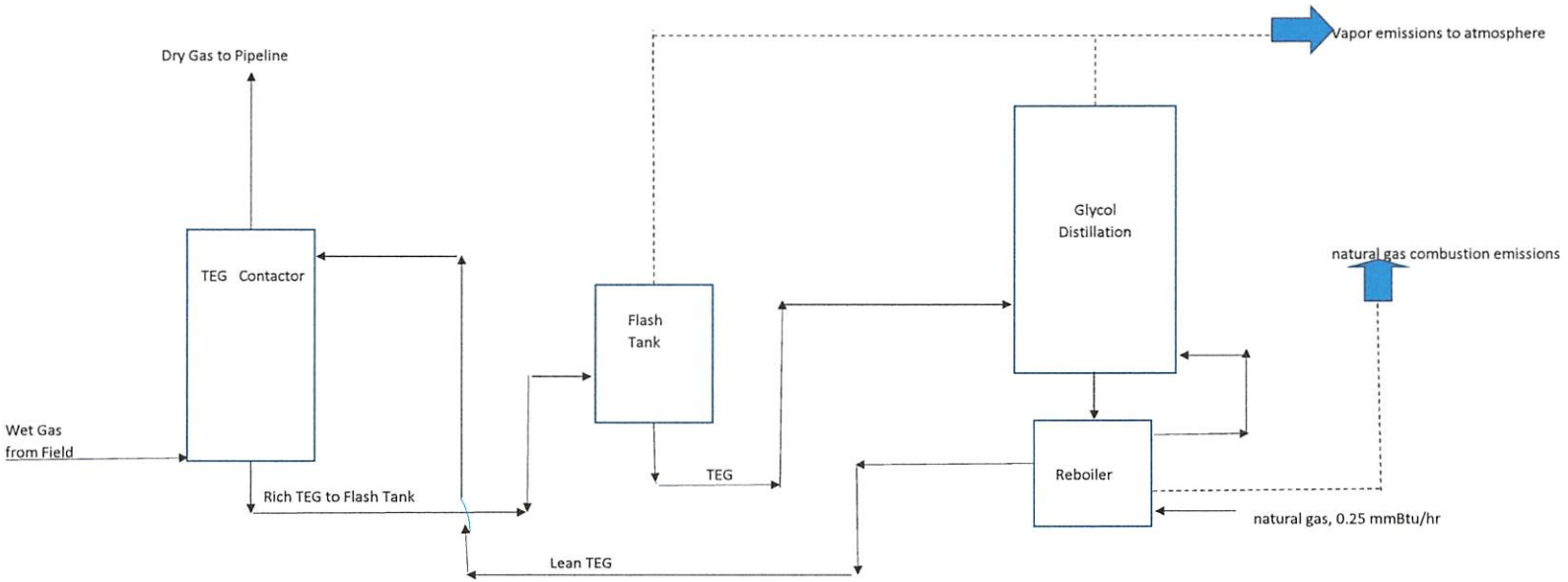


FIGURE 1. TEG DEHYDRATOR BLOCK FLOW DIAGRAM

VENTURE OIL & GAS, INC.
OIL AND GAS EXPLORATION, DEVELOPMENT & OPERATIONS

140 MAYFAIR ROAD, SUITE 900
HATTIESBURG, MS 39402

PHONE: 601-428-7725
Fax: 601-450-4448

## DEHYDRATOR NOTIFICATION AND CERTIFICATION

In accordance with 40 CFR 63.775(c), Venture is submitting initial notification and certification of the TEG dehydration unit located at the Stringer 8-11 no. 1 facility in Smith County, Mississippi. As shown in Figure 2, the production facility is in a rural area of southern Smith County approximately 14.5 miles northwest of Laurel, Mississippi, the nearest densely settled urban area/urban cluster. The optimum glycol recirculation rate calculations in accordance with the procedures of 40 CFR 63.764(d)(2) are included in Attachment B. The TEG recirculation pump is model number 4015 manufactured by Kimray.

*I certify that the TEG dehydrator located at the Stringer 8-11 facility will always be be operated using a glycol circulation rate not to exceed the optimum circulation rate determined in accordance with 40 CFR 63.7649D)(2)(I) or 63.7649D)(2)(iI), as applicable.*

---------- Date: 10/17/2023

Adam Barham
Vice President-Operations

# ATTACHMENT A

## Calculations for Venture Stringer 8-11 No. 1 Tank Battery

## Site Information for Calculations

| | | | |
|---|---|---|---|
| Site Name: Stringer 8-11 No. 2 Tank Battery | | | |
| Potential Crude Production | 109,500 | bbl/yr | |
| Potential Gas production | - | mcf/yr | |
| Potential Produced Water | 3,650 | bbl/yr | |
| Initial Crude Production | 350 | bbl/day | (expected maximum daily production) |
| Initial Gas Production | 0 | mcf/day | (expected maximum daily production) |
| Initial Water Production | 10 | bbl/day | (expected maximum daily production) |
| Crude Gravity | 49 | | |
| Oil tank W&B Losses | 1.31 | SCF/stock tank bbl | (estimated using E&P Tanks) |
| Oil tank Flash Gas | 73.74 | SCF/stock tank bbl | (estimated using E&P Tanks) |
| Water tank W&B Losses | 0.0131 | SCF/stock tank bbl | ( using 1% of oil tank emissions) |
| Water tankFlash Gas | 0.7374 | SCF/stock tank bbl | ( using 1% of oil tank emissions) |
| VRU recovery efficiency | 0.00% | | |
| Flare destruction efficiency | 98.00% | | |

## Emission Point Summary

| Emission Point Number | Emission Point Description | Design Capacity | Units | Operating Hours |
|---|---|---|---|---|
| AA-001 | Flare | 10.25 | MMBtu/hr | 8760 |
| AA-001a | Flare Pilot | 0.05 | MMBtu/hr | 8760 |
| AA-002 | Power Oil Pump Engine | 165 | hp | 8760 |
| AA-002a | Compressor Engine | 150 | hp | 8760 |
| AA-003 | Fugitive emissions- equipment leaks | - | - | 8760 |
| AA-004 | High Pressure Separator | - | - | 8760 |
| AA-005 | Low Pressure Separator | - | - | 8760 |
| AA-006 | Heater Treater | - | - | 8760 |
| AA-006a | Heater Treater (burner) | 0.5 | mmBtu/hr | 8760 |
| AA-007 | Misc. Chemical Tanks | - | - | 8760 |
| AA-008 | Oil and Water Storage Tanks | - | - | 8760 |
| AA-009 | Truck Loading | 16000 | gal/hr | As needed |
| AA-010 | Line heater | 1 | mmBtu/hr | 8760 |
| AA-011 | Dehydrator | 0.25 | mmBtu/hr | 8760 |

Note: Storage tanks and heater treater vent to the flare.

## Proposed Annual Emissions, controlled

| Emission Unit ID | Emission Unit | Annual Emissions, tpy | | | | | | | | GHG Emissions, tpy | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PM | PM10 | PM2.5 | VOC | NOx | CO | SO2 | Total HAPs | CO2 | CH4 | N2O | CO2e |
| AA-001 | Flare | 0.02 | 0.02 | 0.02 | 5.36 | 0.68 | 3.09 | 0.00 | 0.4894 | 1595.34 | 0.39 | 0.00 | 1605.51 |
| AA-001a | Flare Pilot | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.0004 | 25.59 | 0.00 | 0.00 | 25.62 |
| AA-002 | Power Oil Pump Engine | 0.051 | 0.104 | 0.104 | 0.16 | 11.83 | 19.91 | 0.003 | 0.1735 | 624.23 | 0.03 | 0.00 | 625.23 |
| AA-002a | Compressor Engine | 0.062 | 0.126 | 0.126 | 0.09 | 6.78 | 24.13 | 0.002 | 0.2103 | 756.64 | 0.01 | 0.00 | 757.36 |
| AA-003 | Fugitive emissions- equipment leaks | - | - | - | 0.28 | - | - | - | 0.0159 | 0.03 | 0.01 | 0.00 | 0.38 |
| AA-004 | High Pressure Separator | Gas routed to Flare | | | | | | | | | | | |
| AA-005 | Low Pressure Separator | Gas routed to Flare | | | | | | | | | | | |
| AA-006 | Heater Treater | Gas routed to Flare | | | | | | | | | | | |
| AA-006a | Heater Treater (burner) | 0.00408 | 0.01632 | 0.01632 | 0.01181 | 0.21471 | 0.18035 | 0.00129 | 0.0041 | 255.45 | 0.00 | 0.00 | 255.71 |
| AA-007 | Misc. Chemical Tanks (4) | - | - | - | 0.02 | - | - | - | 0.0190 | - | - | - | - |
| AA-008 | Oil and Water Tanks (4) | Gas routed to flare | | | | | | | | | | | |
| AA-009 | Truck Loading | | | | 16.76 | | | | 0.7498 | 0.05 | 0.25 | 0 | 6.24 |
| AA-010 | Line heater | 0.00 | 0.02 | 0.02 | 0.01 | 0.21 | 0.18 | 0.00 | 0.00 | 255.45 | 0.00 | 0.00 | 255.72 |
| AA-011 | Dehydrator | 0.00 | 0.02 | 0.02 | 8.41 | 0.21 | 0.18 | 0.00 | 1.41 | 127.73 | 3.58 | 0.00 | 217.19 |
| | **Totals** | **0.14** | **0.30** | **0.30** | **31.09** | **19.95** | **47.68** | **0.01** | **3.08** | **3640.50** | **4.28** | **0.00** | **3748.96** |

Notes:
Storage tanks emissions are included in flare emissions.

## Potential Annual Emissions, uncontrolled

| Emission Unit ID | Emission Unit | Annual Emissions, tpy | | | | | | | | GHG Emissions, tpy | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PM | PM10 | PM2.5 | VOC | NOx | CO | SO2 | Total HAPs | CO2 | CH4 | N2O | CO2e |
| AA-001 | Facility gas emissions | - | - | - | 267.96 | - | - | - | 24.47 | 0.79 | 9.02 | 0.00 | 226.20 |
| AA-002 | Power Oil Pump Engine | 0.051 | 0.104 | 0.104 | 0.16 | 11.83 | 19.91 | 0.003 | 0.17 | 624.23 | 0.01 | 0.00 | 624.88 |
| AA-002a | Compressor Engine | 0.062 | 0.126 | 0.126 | 0.19 | 14.34 | 24.13 | 0.004 | 0.21 | 756.64 | 0.01 | 0.00 | 757.43 |
| AA-003 | Fugitive emissions- equipment leaks | - | - | - | 0.28 | - | - | - | 0.02 | 0.03 | 0.33 | 0.00 | 8.21 |
| AA-004 | High Pressure Separator | Gas routed to Flare | | | | | | | | | | | |
| AA-005 | Low Pressure Separator | Gas routed to Flare | | | | | | | | | | | |
| AA-006 | Heater Treater | Gas routed to Flare | | | | | | | | | | | |
| AA-006a | Heater Treater (burner) | 0.00 | 0.02 | 0.02 | 0.01 | 0.21 | 0.18 | 0.00 | 0.0041 | 232.23 | 0.00 | 0.00 | 232.47 |
| AA-007 | Misc. Chemical Tanks | - | - | - | 0.02 | - | - | - | 0.02 | - | - | - | - |
| AA-008 | Oil and Water Storage Tanks | Gas routed to flare | | | | | | | | | | | |
| AA-009 | Truck Loading | | | | 16.76 | | | | 0.7498 | 0.05 | 0.25 | 0 | 6.24 |
| AA-010 | Line heater | 0.00 | 0.02 | 0.02 | 0.01 | 0.21 | 0.18 | 0.00 | 0.00 | 255.45 | 0.00 | 0.00 | 255.72 |
| AA-011 | Dehydrator | 0.00 | 0.02 | 0.02 | 8.41 | 0.21 | 0.18 | 0.00 | 1.41 | 127.73 | 3.58 | 0.00 | 217.19 |
| | **Totals** | **0.12** | **0.28** | **0.28** | **293.79** | **26.81** | **44.58** | **0.01** | **27.06** | **1997.14** | **13.20** | **0.00** | **2328.32** |

Notes:
Storage tanks emissions are included in flare emissions, AA-001.

## Facility Maximum Hourly Emissions, Controlled

| Emission Unit ID | Emission Unit | Emissions, lb/hr | | | | | | | | GHG Emissions, lb/hr | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PM | PM10 | PM2.5 | VOC | NOx | CO | SO2 | Total HAPs | CO2 | CH4 | N2O | CO2e |
| AA-001 | Flare | 0.00 | 0.00 | 0.00 | 1.22 | 0.15 | 0.70 | 0.00 | 0.13 | 364.23 | 0.09 | 0.00 | 366.55 |
| AA-001a | Flare Pilot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.84 | 0.00 | 0.00 | 5.85 |
| AA-002 | Power Oil Pump Engine | 0.01 | 0.02 | 0.02 | 0.04 | 2.70 | 4.55 | 0.00 | 0.04 | 142.52 | 0.01 | 0.00 | 142.75 |
| AA-002a | Compressor Engine | 0.01 | 0.03 | 0.03 | 0.04 | 3.27 | 5.51 | 0.00 | 0.05 | 172.75 | 0.00 | 0.00 | 172.93 |
| AA-003 | Fugitive emissions- equipment leaks | - | - | - | 0.06 | - | - | - | 0.00 | 0.01 | 0.00 | 0.00 | 0.09 |
| AA-004 | High Pressure Separator | GAS ROUTED TO FLARE | | | | | | | | | | | |
| AA-005 | Low Pressure Separator | GAS ROUTED TO FLARE | | | | | | | | | | | |
| AA-006 | Heater Treater | GAS ROUTED TO FLARE | | | | | | | | | | | |
| AA-006a | Heater Treater (burner) | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.04 | 0.00 | 0.00 | 58.32 | 0.00 | 0.00 | 58.38 |
| AA-007 | Misc. Chemical Tanks | - | - | - | 0.00 | - | - | - | 0.00 | - | - | - | 0.00 |
| AA-008 | Oil and Water Storage Tanks | GAS ROUTED TO FLARE | | | | | | | | | | | |
| AA-009 | Truck Loading | - | - | - | 117.72 | - | - | - | 5.27 | 0.01 | 0.06 | 0 | 1.42 |
| AA-010 | Line Heater | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.04 | 0.00 | 0.00 | 58.32 | 0.00 | 0.00 | 58.38 |
| AA-011 | Dehydrator | 0.00 | 0.00 | 0.00 | 1.92 | 0.05 | 0.04 | 0.00 | 0.32 | 29.16 | 0.82 | 0.00 | 49.59 |
| | **Totals** | **0.03** | **0.07** | **0.07** | **121.02** | **6.28** | **10.89** | **0.00** | **5.82** | **831.16** | **0.98** | **0.00** | **855.94** |

Notes: 4.38

Storage tanks emissions are included in flare emissions.

Truck loading hourly emissions are dictated by the capacity of the transfer pump

## Flash Gas Analysis and Conversions

| Component | VOC and/or HAP? | Mol % | Wt % |
|---|---|---|---|
| Total S | None | *** | 0.00000% |
| CO2 | None | 0.362% | 0.160% |
| N2 | None | 0.000% | 0.000% |
| Methane | None | 11.546% | 1.852% |
| Ethane | None | 6.480% | 1.949% |
| Propane | VOC | 19.755% | 8.712% |
| Isobutane | VOC | 20.171% | 11.724% |
| Butane | VOC | 12.576% | 7.309% |
| Isopentane | VOC | 9.194% | 6.633% |
| Pentane | VOC | 5.953% | 4.295% |
| Hexane | VOC | 3.906% | 3.366% |
| Heptanes | VOC | 6.630% | 6.644% |
| Benzene | VOC and HAP | 0.390% | 0.544% |
| Toluene | VOC and HAP | 0.388% | 0.639% |
| e-Benzene | VOC and HAP | 0.015% | 0.028% |
| Xylenes | VOC and HAP | 0.211% | 0.400% |
| n-hexane | VOC and HAP | 2.422% | 3.726% |
| Total VOC | | 79.190% | 54.020% |
| Total HAP | | 3.426% | 5.337% |

| | |
|---|---|
| Heat of combustion, Btu/ft$^3$ | 2465.9 |
| Molecular weight | 46.02 |

Gas analysis generated by E&P Tanks software.

## Produced Gas Analysis and Conversions

| Component | VOC and/or HAP? | Mol % | Wt % |
|---|---|---|---|
| Total S | None | 0.000% | 0.00000% |
| CO2 | None | 2.157% | 4.579% |
| N2 | None | 0.891% | 1.204% |
| Methane | None | 81.104% | 62.757% |
| Ethane | None | 9.041% | 13.112% |
| Propane | VOC | 7.242% | 7.242% |
| Isobutane | VOC | 0.783% | 2.195% |
| Butane | VOC | 1.187% | 3.328% |
| Isopentane | VOC | 0.413% | 1.437% |
| Pentane | VOC | 0.371% | 1.291% |
| Hexane | VOC | 0.000% | 0.565% |
| n-Hexane | VOC and HAP | 0.136% | 0.565% |
| Heptanes+ | VOC | 0.297% | 2.290% |
| Benzene | VOC and HAP | 0.042% | 0.051% |
| Toluene | VOC and HAP | 0.010% | 0.039% |
| e-Benzene | VOC and HAP | 0.001% | 0.004% |
| Xylenes | VOC and HAP | 0.007% | 0.020% |
| Total VOC | | 6.807% | 18.348% |
| Total HAP | | 0.196% | 0.679% |

| | |
|---|---|
| Heat of combustion, Btu/ft$^3$ | 1353.0 |
| Molecular weight | 26.18 |

TANK W & B GAS COMPOSITION

| Component | VOC and/or HAP? | Mol % | Wt % | | | |
|---|---|---|---|---|---|---|
| Total S | None | 0.000% | 0.00000% | | | |
| CO2 | None | 0.32% | 0.25% | 44.1 | 0.140414 | |
| N2 | None | 0.00% | 0.00% | 28.01 | 0 | |
| Methane | None | 4.76% | 1.35% | 16.04 | 0.762878 | |
| Ethane | None | 7.23% | 3.86% | 30.07 | 2.174783 | |
| Propane | VOC | 24.31% | 19.03% | 44.1 | 10.72005 | |
| Isobutane | VOC | 23.60% | 24.34% | 58.12 | 13.71649 | |
| Butane | VOC | 14.17% | 14.62% | 58.12 | 8.235546 | |
| Isopentane | VOC | 9.38% | 12.01% | 72.15 | 6.766083 | |
| Pentane | VOC | 5.77% | 7.39% | 72.15 | 4.163055 | |
| Hexane | VOC | 3.28% | 5.02% | 86.18 | 2.8286 | |
| Heptanes+ | VOC | 4.52% | 8.03% | 100.21 | 4.526586 | |
| Benzene | VOC and HAP | 0.32% | 0.44% | 78.11 | 0.247531 | 0.749809 |
| Toluene | VOC and HAP | 0.27% | 0.44% | 92.14 | 0.245092 | |
| e-Benzene | VOC and HAP | 0.01% | 0.02% | 106.17 | 0.009449 | |
| Xylenes | VOC and HAP | 0.12% | 0.23% | 106.16 | 0.129091 | |
| n-hexane | | 1.95% | 2.98% | 86.18 | 1.677235 | |
| Total VOC | | 85.75% | 91.56% | | 56.34289 | |
| Total HAP | | 2.660% | 4.10% | | | |

| | |
|---|---|
| Heat of combustion, Btu/ft$^3$ | 2796.8 |
| Molecular weight | 51.43 |

Note: W&B vapors and truck loading vapors assumed to have same composition
Gas analysis generated by E&P Tanks software.

## Tank Uncontrolled Emissions Summary

| | Potential | | Initial Production | |
|---|---|---|---|---|
| Total flash gas , | 8,077,222 | SCF/yr | 1,076 | SCF/hr |
| Total flash gas , | 479.88 | tpy | 127.82 | lb/hr |
| Total tank W&B loss | 143,493 | SCF/yr | 19 | SCF/hr |
| Total tank W &B losses | 9.53 | tpy | 2.54 | lb/hr |
| Total tank emissions | 489.41 | tpy | 130.35 | lb/hr |
| Tank emissions to flare | 489.41 | tpy | 130.35 | lb/hr |
| | 2691.51 | | | |
| | 0.16 | 0.15 | 0.0004 | |

Notes:

1. Total flash gas calculated using gas/oil ratio from E&P tanks program and potential crude and water production
2. All tank emissions included with flare, Emission Point AA-001.

## Calculation of Criteria and Hazardous Flare Emissions
## Using 30-day Average Production Values

Gas Flow to Flare:

| | | Potential |
|---|---|---|
| Flow to flare of tank flash gas | = | 479.88 tpy |
| Flow to flare of tank W&B emissions | | 9.53 tpy |
| flow to flare from truck loading | = | 0.00 tpy |
| Total process gas to flare | = | 489.41 tpy |
| Produced gas to flare | = | 0.00 tpy |
| | = | 0.00 mcf/yr |

| | | |
|---|---|---|
| Produced gas combustion heat | = | 0.00 MMBtu/yr |
| process gas combustion heat | = | 19903.96 MMBtu/yr |
| flare gas combustion heat, total | = | 19903.96 MMBtu/yr |

| | | | Potential Emissions | | | Potential Emissions | |
|---|---|---|---|---|---|---|---|
| | Pollutant | Emission factor, lbs/MMBtu | lb/hr | tpy | Pollutant | lb/hr | tpy |
| | NOx | 0.068 | 0.155 | 0.677 | n-hexane | 0.0759 | 0.3326 |
| Calculation | CO | 0.31 | 0.704 | 3.085 | benzene | 0.0121 | 0.0531 |
| | PM | 0.00186 | 0.004 | 0.019 | e-benzene | 0.0006 | 0.0028 |
| | VOC | mass balance | 1.224 | 5.359 | toluene | 0.0142 | 0.0621 |
| | $SO_2$ | mass balance | 0.000 | 0.000 | xylenes | 0.0089 | 0.0388 |
| | PM10/PM2.5 | 0.00745 | 0.017 | 0.074 | Total HAPs | 0.1117 | 0.4894 |

Notes:

1. Emission factors from AP-42, Table 13.5-1, are used to calculate NOx and CO emissions, and PM emission factor from AP-42, Table 1.4-2.
2. Mass balance calculations utilize flare input gas flow and a flare destruction efficiancy of 98% minimum.
3. Mass balance for sulfur assumes all sulfur converted to SO2 in flare.

ank Battery HAP emissions calculated using mass balance and 98% destruction efficiency
Oil General Permit Coverage Application

## Calculation of Maximum Hourly Criteria and Hazardous Flare Emissions
## Using Initial Production Values

Gas Flow to Flare:

| | | Potential | |
|---|---|---|---|
| Flow to flare of tank flash gas | = | 127.82 | lbs/hr |
| Flow to flare of tank W&B emissions | | 2.54 | lbs/hr |
| flow to flare from truck loading | = | 0.00 | lbs/hr |
| Total process gas to flare | = | 130.35 | lbs/hr |
| Produced gas to flare | = | 0.00 | lbs/hr |
| | = | 0.00 | mcf/hr |

| | | | |
|---|---|---|---|
| Produced gas combustion heat | = | 0.00 | MMBtu/hr |
| process gas combustion heat | = | 2.65 | MMBtu/hr |
| flare gas combustion heat, total | = | 2.65 | MMBtu/hr |

| | | | Maximum Hourly Emissions | | Potential Emissions |
|---|---|---|---|---|---|
| | Pollutant | Emission factor, lbs/MMBtu | lb/hr | Pollutant | lb/hr |
| | NOx | 0.068 | 0.180 | n-hexane | 0.0886 |
| Calculation | CO | 0.37 | 0.981 | benzene | 0.0141 |
| | PM | 0.00745 | 0.020 | e-benzene | 0.0007 |
| | VOC | mass balance | 1.427 | toluene | 0.0165 |
| | $SO_2$ | mass balance | 0.000 | xylenes | 0.0103 |
| | | | | Total HAPs | 0.1304 |

Notes:

1. Emission factors from AP-42, Table 13.5-1, are used to calculate NOx and CO emissions, and PM emission factor from AP-42, Table 1.4-2.
2. Mass balance calculations utilize flare input process gas flow and a flare destruction efficiancy of 98% minimum.
3. Mass balance for sulfur assumes all sulfur converted to SO2 in flare.
4. HAP emissions calculated using mass balance and 98% destruction efficiency

## Calculation of Uncontrolled Emissions of Produced Gas

| | | Potential |
|---|---|---|
| Flow to flare from tank flash gas | = | 479.88 tpy |
| Flow to flare from tank W&B emissions | = | 9.53 |
| flow to flare from truck loading | = | 0.00 tpy |
| Produced gas to flare from separators | = | 0.00 tpy |

| | | | Potential Emissions | |
|---|---|---|---|---|
| | Pollutant | Emission factor, lbs/MMBtu | lb/hr | tpy |
| | VOC | mass balance | 61.177 | 267.96 |
| | H2S | mass balance | 0.000 | 0.00 |
| | n-hexane | mass balance | 3.797 | 16.63 |
| | benzene | mass balance | 0.606 | 2.65 |
| | e-benzene | mass balance | 0.032 | 0.14 |
| | toluene | mass balance | 0.709 | 3.11 |
| Calculation | xylenes | mass balance | 0.443 | 1.94 |
| | total HAPs | mass balance | 5.587 | 24.47 |
| | methane | mass balance | 2.059 | 9.02 |
| | CO2 | mass balance | 0.180 | 0.79 |

Note: For calculation of uncontrolled emissions, flare efficiency is 0%.

## Calculation of Flare GHG Emissions

| | |
|---|---|
| Process gas to flare, mmcf/yr | 8.07 |
| N2O emission factor, kg/mmBtu | 0.0001 |
| HHV, mmBtu/scf | 0.001235 |
| CO2 density, kg/ft3 | 0.052600 |
| CH4 density, kg/ft3 | 0.019200 |
| flare efficiency | 98.00% |

**PROCESS GAS**

| carbon atoms | CO2 (from combustion) cubic ft. | CO2 (from combustion) tpy | CO2 input tpy | CH4, uncombusted cubic ft. | CH4, uncombusted tpy[1] | N2O tpy[1] | CO2e tpy |
|---|---|---|---|---|---|---|---|
| | | | 1.69E+00 | 1.86E+04 | 3.94E-01 | 1.10E-03 | 1.19E+01 |
| 1 | 9.13E+05 | 5.28E+01 | * | | | | 5.28E+01 |
| 2 | 1.03E+06 | 5.93E+01 | | | | | 5.93E+01 |
| 3 | 4.69E+06 | 2.71E+02 | | | | | 2.71E+02 |
| 4 | 1.04E+07 | 6.00E+02 | | | | | 6.00E+02 |
| 5+ | 1.06E+07 | 6.11E+02 | | | | | 6.11E+02 |
| Total | 2.75E+07 | 1.59E+03 | 1.69E+00 | 1.86E+04 | 3.94E-01 | 1.10E-03 | 1.61E+03 |

**PRODUCED GAS**

| | |
|---|---|
| produced gas to flare, mmcf/yr | 0.00 |

| carbon atoms | CO2 (from combustion) cubic ft. | CO2 (from combustion) tpy | CO2 input tpy | CH4, uncombusted cubic ft. | CH4, uncombusted tpy | N2O tpy | CO2e tpy |
|---|---|---|---|---|---|---|---|
| | | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 1 | 0.00E+00 | 0.00E+00 | | | | | 0.00E+00 |
| 2 | 0.00E+00 | 0.00E+00 | | | | | 0.00E+00 |
| 3 | 0.00E+00 | 0.00E+00 | | | | | 0.00E+00 |
| 4 | 0.00E+00 | 0.00E+00 | | | | | 0.00E+00 |
| 5+ | 0.00E+00 | 0.00E+00 | | | | | 0.00E+00 |
| Total | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

Note: GHG emissions calculated using procedures from 40 CFR 98.233(n)(4)

## Equipment Component Fugitive Emissions

| Components | Counts | Emission Factor[1] scf/hr/component | Emissions lbs/hr | Wt. Fraction VOC | VOC Emissions | | VOC% HAP[3] | HAP Emissions | | GHG Emissions, ton/yr | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | lb/hr | tpy | | lb/hr | tpy | CO2 | CH4 | CO2e |
| **Valves:** | 37 | | | | | | | | | | | |
| gas/vapor | 24 | 0.027 | 0.044702609 | 0.18 | 0.008 | 0.04 | 0.68% | 0.000 | 0.001 | 0.007087 | 0.097233 | 2.44 |
| light oil[2] | 13 | 0.05 | 0.04484058 | 0.54 | 0.024 | 0.11 | 5.34% | 0.002 | 0.010 | 0.007109 | 0.088667 | 2.22 |
| heavy oil | 0 | 0.0005 | 0 | 0.18 | 0.000 | 0.00 | 0.68% | 0.000 | 0.000 | 0 | 0 | 0.00 |
| **Pumps:** | | | 0 | 0.18 | | | 0.68% | 0.000 | 0.000 | 0 | 0 | 0.00 |
| Light oil | 0 | 0.01 | 0 | 0.73 | 0.000 | 0.00 | 1.66% | 0.000 | 0.000 | 0 | 0 | 0.00 |
| heavy oil | 0 | 0 | 0 | 0.18 | | | 0.68% | 0.000 | 0.000 | 0 | 0 | 0.00 |
| **Flanges:** | 46 | | 0 | 0.18 | | | 0.68% | 0.000 | 0.000 | 0 | 0 | 0.00 |
| gas/vapor | | 0 | 0 | 0.18 | 0.000 | 0.00 | 0.68% | 0.000 | 0.000 | 0 | 0 | 0.00 |
| light oil | 46 | 0.003 | 0.00952 | 0.73 | 0.007 | 0.03 | 1.66% | 0.000 | 0.001 | 0.001509 | 0.018825 | 0.47 |
| heavy oil | 0 | 0.0009 | 0 | 0.18 | 0.000 | 0.00 | 0.68% | 0.000 | 0.000 | 0 | 0 | 0.00 |
| **Relief Valve:** | | | 0 | 0.18 | | | 0.68% | 0.000 | 0.000 | 0 | 0 | 0.00 |
| gas/vapor | 4 | 0.04 | 0.011037681 | 0.18 | 0.002 | 0.01 | 0.68% | 0.000 | 0.000 | 0.00175 | 0.021826 | 0.55 |
| **Connectors:** | 101 | | 0 | 0.18 | | | 0.68% | 0.000 | 0.000 | 0 | 0 | 0.00 |
| gas/vapor | 67 | 0.003 | 0.013866087 | 0.18 | 0.003 | 0.01 | 0.68% | 0.000 | 0.000 | 0.002198 | 0.027418 | 0.69 |
| light oil | 34 | 0.007 | 0.016418551 | 0.73 | 0.012 | 0.05 | 1.66% | 0.000 | 0.001 | 0.002603 | 0.032466 | 0.81 |
| heavy oil | 0 | 0.0003 | 0 | 0.18 | 0.000 | 0.02 | 0.68% | 0.000 | 0.000 | 0 | 0 | 0.00 |
| Other | 1 | 0.3 | 0.020695652 | 0.18 | 0.004 | 0.02 | 1.66% | 0.000 | 0.002 | 0.003281 | 0.040923 | 1.03 |
| | | | | **Totals** | **0.060** | **0.278** | | **0.004** | **0.016** | **0.026** | **0.327** | **8.209** |

### Notes:

1. Emission factors and equipment counts taken from 40 CFR 98, subpart W.
2. Light oil is defined as having API gravity greater than or equal to 20 degrees API.
3. Vapors emitted from gas service equipment assumed to be same as produced gas, vapor from liquid service equipment assumed to be the same as flash gas.

| | lb/hr | tpy |
|---|---|---|
| n-hexane | 0.00303 | 0.01327 |
| benzene | 0.00027 | 0.00120 |
| ethyl benzene | 0.00002 | 0.00009 |
| toluene | 0.00021 | 0.00092 |
| xylene | 0.00011 | 0.00047 |

| Equipment | Count | Valves | Flanges | Fittings | prv | Other |
|---|---|---|---|---|---|---|
| wellhead | 1 | 5 | 10 | 4 | 0 | 1 |
| heater treater | 1 | 8 | 12 | 20 | 0 | 0 |
| header | 0 | 0 | 0 | 0 | 0 | 0 |
| separator | 2 | 12 | 24 | 20 | 0 | |
| meters/piping | 0 | 0 | 0 | 0 | 0 | 0 |
| compressor | 1 | 12 | 0 | 57 | 4 | 0 |
| dehydrator | 0 | 0 | 0 | 0 | 0 | 0 |
| total | | 37 | 46 | 101 | 4 | 1 |

## ENGINE POTENTIAL EMISSIONS CALCULATIONS

| | | Heat Input | | Emissions, tpy | | | | | | | GHG Emissions, tons/yr | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Engine No. | HP | mmBtu/hr | NOx | VOC | CO | SO2 | TSP | PM10 | PM2.5 | CO2 | CH4 | N2O | CO2e |
| AA-002 | 165 | 1.22 | 11.83 | 0.16 | 19.91 | 0.00 | 0.05 | 0.10 | 0.10 | 624.23 | 1.18E-02 | 0.001 | 624.88 |
| AA-002a | 200 | 1.48 | 14.34 | 0.19 | 24.13 | 0.00 | 0.06 | 0.13 | 0.13 | 756.64 | 1.43E-02 | 0.001 | 757.43 |
| | | **Total** | 26.16 | 0.35 | 44.04 | 0.01 | 0.11 | 0.23 | 0.23 | 1380.88 | 0.03 | 0.00 | 1382.30 |

| Pollutant | AP-42 Emission Factor lbs/MMBtu |
|---|---|
| NOx | 2.21 |
| VOC | 0.0296 |
| CO | 3.72 |
| SO2 | 0.000588 |
| PM10 | 0.00950 |
| PM2.5 | 0.00950 |
| PM cond | 0.00991 |

| Conversion Factor,g to lbs |
|---|
| 0.0022046 |

| | GHG Emission Factors kg/mmBtu |
|---|---|
| CO2 | 53.02 |
| CH4 | 0.001 |
| N2O | 0.0001 |

**ENGINE HAP EMISSIONS CALCULATIONS**

| HAP | Natural Gas Emission Factor, lbs/mmBtu | AA-002 HAP EMISSIONS | | AA-002a HAP EMISSIONS | |
|---|---|---|---|---|---|
| | | lbs/hr | tpy | lbs/hr | tpy |
| 1,1,2,2-Tetrachloroethane | 2.53E-05 | 3.09E-05 | 1.35E-04 | 3.75E-05 | 1.64E-04 |
| 1,1,2-Trichloroethane | 1.53E-05 | 1.87E-05 | 8.19E-05 | 2.27E-05 | 9.92E-05 |
| 1,3-Butadiene | 6.63E-04 | 8.10E-04 | 3.55E-03 | 9.82E-04 | 4.30E-03 |
| 1,3-Dichloropropene | 1.27E-05 | 1.55E-05 | 6.80E-05 | 1.88E-05 | 8.24E-05 |
| Acetaldehyde | 2.79E-03 | 3.41E-03 | 1.49E-02 | 4.13E-03 | 1.81E-02 |
| Acrolein | 2.63E-03 | 3.21E-03 | 1.41E-02 | 3.90E-03 | 1.71E-02 |
| Benzene | 1.58E-03 | 1.93E-03 | 8.46E-03 | 2.34E-03 | 1.02E-02 |
| Carbon Tetrachloride | 1.77E-05 | 2.16E-05 | 9.47E-05 | 2.62E-05 | 1.15E-04 |
| Chlorobenzene | 1.29E-05 | 1.58E-05 | 6.90E-05 | 1.91E-05 | 8.37E-05 |
| Chloroform | 1.37E-05 | 1.67E-05 | 7.33E-05 | 2.03E-05 | 8.89E-05 |
| Ethylbenzene | 2.48E-05 | 3.03E-05 | 1.33E-04 | 3.67E-05 | 1.61E-04 |
| Ethylene Dibromide | 2.13E-05 | 2.60E-05 | 1.14E-04 | 3.15E-05 | 1.38E-04 |
| Formaldehyde | 2.05E-02 | 2.50E-02 | 1.10E-01 | 3.04E-02 | 1.33E-01 |
| Methanol | 3.06E-03 | 3.74E-03 | 1.64E-02 | 4.53E-03 | 1.98E-02 |
| Methylene Chloride | 4.12E-05 | 5.03E-05 | 2.20E-04 | 6.10E-05 | 2.67E-04 |
| Naphthalene | 9.71E-05 | 1.19E-04 | 5.20E-04 | 1.44E-04 | 6.30E-04 |
| PAH | 1.41E-04 | 1.72E-04 | 7.55E-04 | 2.09E-04 | 9.15E-04 |
| Styrene | 1.19E-05 | 1.45E-05 | 6.37E-05 | 1.76E-05 | 7.72E-05 |
| Toluene | 5.58E-04 | 6.82E-04 | 2.99E-03 | 8.26E-04 | 3.62E-03 |
| Vinyl Chloride | 7.18E-06 | 8.77E-06 | 3.84E-05 | 1.06E-05 | 4.66E-05 |
| Xylene | 1.95E-04 | 2.38E-04 | 1.04E-03 | 2.89E-04 | 1.26E-03 |
| Total | | 3.96E-02 | 1.73E-01 | 4.80E-02 | 2.10E-01 |

AA-002 heat input= 1.22 mmBtu/hr
AA-002a heat input= 1.48 mmBtu/hr
annual operating hours= 8760
Emission factors from AP-42, Table 3.2-3

## Truck Loading Emissions Calculations 30-Day Average production

Basis: 30 day average production rates

$L_L$ = 12.46 *(SPM)/T (from EPA AP-42 Section 5.2.2.1)

Where:

$L_L$ = Loading loss, lbs per 1,000 gal of liquid loaded
S = Saturation factor
P = True vapor pressure of liquid, psia
M = Molecular weight of vapors, lb/lb-mole
T = Temperature of bulk liquid loaded, degrees R

**CRUDE OIL**

| EPA "S" Factor | True VP of Liquid (psia) | Mol. Wt. Of Vapors (lb/lb-mole) | Temp. of Liquid (°R) | Sales Volume ($10^3$ gal/yr) | Loading Rate (gal/hr) | Uncontrolled Estimated Emissions, Total Hydrocarbons $L_L$ | (lb/hr) | (tpy) |
|---|---|---|---|---|---|---|---|---|
| 1.45 | 5 | 48.00 | 545 | 4,599 | 16,000 | 7.96 | 127.30 | 18.30 |

**PRODUCED WATER**

Calculation

| EPA "S" Factor | True VP of Liquid (psia) | Mol. Wt. Of Vapors (lb/lb-mole) | Temp. of Liquid (°R) | Loaded Volume ($10^3$ gal/yr) | Loading Rate (gal/hr) | Uncontrolled Estimated Emissions, Total Hydrocarbons $L_L$ | (lb/hr) | (tpy) |
|---|---|---|---|---|---|---|---|---|
| 1.45 | 0.05 | 48.00 | 545 | 153 | 16,000 | 0.08 | 1.27 | 0.01 |

| HAPs | tons/yr |
|---|---|
| Benzene | 0.080402 |
| Toluene | 0.07961 |
| e-Benzene | 0.003069 |
| Xylenes | 0.041931 |
| n-hexane | 0.544796 |
| | 0.749809 |

## Truck Loading Emissions Calculations, Maximum lbs/hr

$L_L$ = 12.46 *(SPM)/T (from EPA AP-42 Section 5.2.2.1)

Where:

$L_L$ = Loading loss, lbs per 1,000 gal of liquid loaded
S = Saturation factor
P = True vapor pressure of liquid, psia
M = Molecular weight of vapors, lb/lb-mole
T = Temperature of bulk liquid loaded, degrees R

CRUDE OIL

| EPA "S" Factor | True VP of Liquid (psia) | Mol. Wt. Of Vapors (lb/lb-mole) | Temp. of Liquid °(R) | Sales Volume ($10^3$ gal/hr) | Loading Rate (gal/hr) | Uncontrolled Estimated Emissions, Total Hydrocarbons $L_L$ | (lb/hr) |
|---|---|---|---|---|---|---|---|
| 1.45 | 5 | 48.00 | 545 | 16.0 | 16,000 | 7.96 | 127.30 |

PRODUCED WATER

Calculation

| EPA "S" Factor | True VP of Liquid (psia) | Mol. Wt. Of Vapors (lb/lb-mole) | Temp. of Liquid °(R) | Loaded Volume ($10^3$ gal/hr) | Loading Rate (gal/hr) | Uncontrolled Estimated Emissions, Total Hydrocarbons $L_L$ | (lb/hr) |
|---|---|---|---|---|---|---|---|
| 1.45 | 0.05 | 48.00 | 545 | 16.0 | 16,000 | 0.08 | 1.27 |

| HAPs | lbs/hr |
|---|---|
| Benzene | 0.564848 |
| Toluene | 0.559285 |
| e-Benzene | 0.021562 |
| Xylenes | 0.294576 |
| n-hexane | 3.82734 |
| total | 5.267611 |

Venture Stringer 8-11 No. 2 Tank Battery
Oil General Permit Coverage Application

## External Combustion Equipment Emissions Calculations

| Source | Capacity MMBtu/hr | Emissions, tons/yr | | | | | | | | GHG Emissions, metric tons/yr | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PM | PM10 | Pm 2.5 | NOx | CO | VOC | SO2 | HAP | CO2 | CH4 | N2O | CO2e |
| Heater Tre | 0.5 | 0.004 | 0.016 | 0.016 | 0.215 | 0.180 | 0.012 | 0.001 | 0.004 | 255.45 | 0.00 | 0.00 | 255.72 |
| Line Heate | 0.5 | 0.004 | 0.016 | 0.016 | 0.215 | 0.180 | 0.012 | 0.001 | 0.000 | 255.45 | 0.00 | 0.00 | 255.72 |
| Dehy | 0.25 | 0.002 | 0.008 | 0.008 | 0.107 | 0.090 | 0.006 | 0.001 | 0.000 | 127.73 | 0.00 | 0.00 | 127.86 |
| **Totals** | | 0.010 | 0.041 | 0.041 | 0.537 | 0.451 | 0.030 | 0.003 | 0.004 | 638.626 | 0.012 | 0.001 | 639.300 |

Ap-42 natural gas combustion
Emission Factors, lbs/MMBtu

| | |
|---|---|
| Pm | 0.001863 |
| PM10 | 0.007451 |
| PM2.5 | 0.007451 |
| NOx | 0.098039 |
| CO | 0.082353 |
| VOC | 0.005392 |
| SO2 | 0.000588 |
| HAPs | 0.001851 |

**40 CFR 98, subpart C**

| **Emission Factors, kg/MMBtu** | |
|---|---|
| CO2 | 53.02 |
| CH4 | 0.001 |
| N2O | 0.0001 |

Dehydrator Regenerator Overhead Gas

| Componen | Units | Flow |
|---|---|---|
| Methane | tpy | 0.20 |
| Ethane | tpy | 0.40 |
| Propane | tpy | 0.60 |
| Isobutane | tpy | 0.26 |
| Butane | tpy | 0.66 |
| Isopentane | tpy | 0.25 |
| Pentane | tpy | 0.36 |
| Hexanes | tpy | 0.97 |
| Heptane+ | tpy | 1.14 |
| Benzene | tpy | 1.28 |
| n-Hexane | tpy | 0.00 |
| toluene | tpy | 0.10 |
| Xylenes | tpy | 0.02 |
| Total VOC | tpy | 4.24 |
| Total HAPs | tpy | 1.41 |

Dehydrator Regenerator Flash Gas

| Component | Units | Flow |
|---|---|---|
| Methane | tpy | 3.37 |
| Ethane | tpy | 2.01 |
| Propane | tpy | 1.43 |
| Isobutane | tpy | 0.43 |
| Butane | tpy | 0.84 |
| Isopentane | tpy | 0.29 |
| Pentane | tpy | 0.33 |
| Hexane+ | tpy | 0.52 |
| Heptane+ | tpy | 0.31 |
| Benzene | tpy | 0.00 |
| n-Hexane | tpy | 0.00 |
| toluene | tpy | 0.00 |
| Xylenes | tpy | 0.00 |
| Total VOC | tpy | 4.15 |
| Total HAPs | tpy | 0.00 |

Emissions calculated using GLYCALC simulation software

**Natural Gas Combustion HAP Calculations**

| HAP | Natural Gas Emission Factor, lbs/mmBtu | Heater Treater HAP EMISSIONS | | Dehydrator HAP EMISSIONS | | Line Heater HAP EMISSIONS | |
|---|---|---|---|---|---|---|---|
| | | lbs/hr | tpy | lbs/hr | tpy | lbs/hr | tpy |
| Benzene | 2.06E-06 | 1.03E-06 | 4.51E-06 | 5.15E-07 | 2.25E-06 | 1.03E-06 | 4.51E-06 |
| Dichlorobenzene | 1.18E-06 | 5.88E-07 | 2.58E-06 | 2.94E-07 | 1.29E-06 | 5.88E-07 | 2.58E-06 |
| Formaldehyde | 7.35E-05 | 3.68E-05 | 1.61E-04 | 1.84E-05 | 8.05E-05 | 3.68E-05 | 1.61E-04 |
| Hexane | 1.76E-03 | 8.82E-04 | 3.86E-03 | 4.41E-04 | 1.93E-03 | 8.82E-04 | 3.86E-03 |
| Naphthalene | 5.98E-07 | 2.99E-07 | 1.31E-06 | 1.50E-07 | 6.55E-07 | 2.99E-07 | 1.31E-06 |
| Polycyclic Organic Matter | 2.38E-05 | 1.19E-05 | 5.21E-05 | 5.95E-06 | 2.61E-05 | 1.19E-05 | 5.21E-05 |
| Toluene | 3.33E-06 | 1.67E-06 | 7.30E-06 | 8.33E-07 | 3.65E-06 | 1.67E-06 | 7.30E-06 |
| Total | | 9.35E-04 | 4.09E-03 | 4.67E-04 | 2.05E-03 | 9.35E-04 | 4.09E-03 |

Burner Heat Input= 0.50 mmBtu/hr
Flare Pilot Heat Input= 0.25 mmBtu/hr
Line Heater Heat Input= 0.50 mmBtu/hr
annual operating hours= 8760
Emission factors from AP-42, Table 1.4-3

Venture Stringer 8-11 No. 2 Tank Battery
Oil General Permit Coverage Application

## FLARE PILOT CALCULATIONS

| Emission Unit ID | Combustion Source | Capacity | Criteria Emissions, tons/yr | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | MMBTUH | PM | PM10 | PM2.5 | NOx | CO | VOC | SO2 | HAP |
| AA-001a | Flare (Pilot) | 0.05 | 0.000 | 0.002 | 0.002 | 0.021 | 0.018 | 0.001 | 0.000 | 0.000 |

| Emission Unit ID | Combustion Source | Capacity | GHG Emissions, metric tons/yr | | | | GHG Emissions, short tons/yr | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | MMBTUH | CO2 | CH4 | N2O | CO2e | CO2 | CH4 | N2O | CO2e |
| AA-001a | Flare (Pilot) | 0.05 | 23.223 | 0.000 | 0.000 | 23.246 | 25.59 | 0.00 | 0.00 | 25.62 |

**Gas combustion**

| AP-42 Emission Factors, lbs/MMBtu | |
|---|---|
| TSP | 0.001863 |
| PM10 | 0.007451 |
| PM2.5 | 0.007451 |
| NOx | 0.098039 |
| CO | 0.082353 |
| VOC | 0.005392 |
| SO2 | 0.000588 |
| HAPs | 0.001851 |

| Emission Factors, kg/MMBtu | |
|---|---|
| CO2 | 53.02 |
| CH4 | 0.001 |
| N2O | 0.0001 |

# APPENDIX B:

# BACKUP DOCUMENTATION

Calculations for 40 CFR 63, Subpart HH – Glycol Optimal Circulation Rate

$$L_{OPT} = 1.15 * 3.0 \frac{\text{gal TEG}}{\text{lb } H_2O} * \left( \frac{F*(I-O)}{24 \text{ hr/day}} \right)$$

Where:
$L_{OPT}$ = Optimal circulation rate, gal/hr.
F = Gas flowrate (MMSCF/D).
I = Inlet water content (lb/MMSCF).
O = Outlet water content (lb/MMSCF).
3.0 = The industry accepted rule of thumb for a TEG-to water ratio (gal TEG/lb $H_2O$).
1.15 = Adjustment factor included for a margin of safety.

F = 4.82 MMCF/D (Sept 21 – Sept 27 sales average)

I = 65 lb/MMSCF (assuming 800 psi, 95 deg F)

O = 3 lb/MMSCF (based on Draeger tubes for sales gas)

Lopt = 43 gal/hr

Per discussions with Don Heap, we are currently circulating 40 gal/hr. Since our circulation rate is not above the calculated optimal circulation rate, no additional analysis is needed.

DELBERT HOSEMANN
*Secretary of State*

This is not an official certificate of good standing.

## Name History

| Name | Name Type |
|---|---|
| VENTURE OIL & GAS INC. | Legal |

## Business Information

| | |
|---|---|
| **Business Type:** | Profit Corporation |
| **Business ID:** | 558492 |
| **Status:** | Good Standing |
| **Effective Date:** | 11/07/1988 |
| **State of Incorporation:** | Mississippi |
| **Principal Office Address:** | |

## Registered Agent

**Name**

JAY DONALD FENTON
207 South 13th Avenue
Laurel, MS 39440

## Officers & Directors

| Name | Title |
|---|---|
| Jay Donald Fenton<br>332 Luther Hill Road, A<br>Ellisville, MS 39437 | Incorporator |
| William Edward Carpenter<br>112 Westminister Drive<br>Hattiesburg, MS 39401 | Incorporator |
| Jay Donald Fenton<br>332 Luther Hill Rd<br>Ellisville, MS 39437 | Director, President |
| Neil Scrimpshire<br>9 Heritage Trail<br>Laurel, MS 39440 | Director, Secretary, Vice President |