

ORIGINAL

*AI#76905
MSOPGP1368-
~~22~~159*

OIL PRODUCTION GENERAL PERMIT NOTICE OF INTENT



VENTURE OIL & GAS, INC
Herring 7-14 No.1 Facility
Jones County, Mississippi

Submittal Date: February, 2020

PREPARED BY:

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

RECEIVED
FEB 25 2020



Dept. of Environmental Quality

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EXECUTIVE SUMMARY

Venture Oil & Gas Inc. (Venture) plans to drill a new well for the purposes of oil production. The well (Herring 7-14 No. 1) will be located in Section 7, Township 9N, Range 13W, in Jones County, Mississippi. The proposed site will include a conventional tank battery, flare, and associated well pad activities. Based on engineering estimates, the maximum production rates are estimated to be up to 750 thousand cubic feet (MCF) of gas produced per day and 350 barrels (bbl) of oil produced per day, along with 10 bbl/day of produced water. This will be wildcat, not in an existing field.

A pipeline outlet does not exist for the gas, therefore, Venture will flare all gas streams, including gas off of the separators, the storage tank emissions and the gas produced by the heater treater. Venture will collect produced water into a 400-bbl water tank prior to offsite transport to a disposal well. Oil will be collected into three (3) 400-bbl oil storage tanks and one(1) 500 bbl oil storage tank before being trucked to market. Venture is requesting a federally enforceable requirement for flaring of tank emissions. Emissions associated with truck loading will be vented to the atmosphere. Venture may also operate various small chemical storage vessels, including totes and drums, which are typically associated with well pad activities. Venture intends to install and operate a natural gas fueled engine if/when a pumping unit is required for production from the well. The engine will be classified as "existing" under 40 CFR 63, Subpart ZZZZ.

Consequently, Venture is submitting the attached Notice of Intent (NOI) and associated information for issuance of coverage under the Oil Production General Permit. Based on the facility's potential to emit, the facility's uncontrolled potential emissions of Volatile Organic Compounds (VOC), n-hexane, and total HAPs exceed the threshold limits to be classified as a True Minor Source. Therefore, Venture proposes to restrict facility operations such that the flare is operated at all times during gas venting. Combustion of produced gas from the well, process gas from the heater treater, and gas off of the oil and water storage tanks will ensure VOC emissions from the facility do not exceed the Air Title V Major Source threshold of 100 tons per year and the General permit limit of 95 tons per year. Venture will monitor the volume of gas flared, except that the volume of gas from the tanks will be calculated using an approved methodology. Venture will calculate corresponding monthly VOC emissions due to flaring of gas from all sources. A flow meter will be used to measure monthly flow of produced gas to the flare. Monthly oil production records and E&P TANKS software will be utilized to calculate emissions from the storage tanks to the flare. Emissions calculations will be maintained on a monthly and rolling, consecutive 12-month basis to ensure compliance with permitted emissions thresholds.

Also included with the NOI are associated maps and figures. Detailed air emissions calculations are provided in Appendix A, and pertinent backup documentation is provided in Appendix B.

NOTICE OF INTENT (NOI) FORMS

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 Herring 7-14 No. 1 Facility

C. Facility Air Permit/Coverage No. (if known): MSOPGP 1340-00159

D. Agency Interest No. (if known): 76905

E. Physical Address

1. Street Address: Field Road off of J.T. Keys Road

2. City: ~~Taylorville~~ Essex 3. State: MS

4. County: Jones 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): 31/45/25.596

4. Longitude (degrees/minutes/seconds): -89/20/31.3074

5. Elevation (feet): 425

H. SIC Code: 1311

2. Name and Address of Facility Contact

A. Name: Jarvis Hensley 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: jarvish@venture-inc.com

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MDEQ

**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: Jarvis Hensley 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: jarvish@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 Facility:

Produced Material	Throughput	Units
Gas	0.75	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	0.75	MMCF/day
Oil	350	barrels/day
Water	10	barrels/day
Other (Specify)		MMCF/day

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

**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

2/24/20
Date

Jarvis Hensley
Printed Name

2/24/2020
Date

ORIGINAL

NOTICE OF INTENT (NOI) FORMS

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MDEQ

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 Point ID	TSP ¹ (PM)		PM-10 ¹		PM-2.5 ¹		SO ₂		NOx		CO		VOC		TRS ²		Lead		Total HAPs		
	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	0.00	1653.95	0.00	0.00	0.00	0.00	0.00	17.2974	75.7624
AA-001a	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	0.00	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	0.16	0.00	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	0.00	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	0.00	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	0.00	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	128.57	1671.17	0.00	0.00	0.00	0.00	0.00	5.2676	76.7248
Totals	0.01	0.05	0.03	0.12	0.03	0.12	0.00	0.01	2.75	12.06	4.59	20.09	506.29	3325.59	0.00	0.00	0.00	0.00	0.00	22.62	152.74

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 (H₂S), methyl mercaptan (CH₃S), dimethyl sulfide (C₂H₆S), and dimethyl disulfide (C₂H₆S₂).

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		NO _x		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	0.07	0.29	0.27	1.18	0.27	1.18	0.000	0.00	2.45	10.75	13.36	58.50	7.55	33.08	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	0.02	0.05	0.01	0.104	0.01	0.104	0.001	0.003	2.70	11.83	4.55	19.91	0.04	0.16	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	0.08	0.35	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	125.38	50.30	0.00	0.00	0.00	0.00	
Totals	0.09	0.35	0.28	1.30	0.28	1.30	0.00	0.00	5.21	22.81	17.95	78.61	133.05	83.92	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 (H₂S), methyl mercaptan (CH₃S), dimethyl sulfide (C₂H₆S), and dimethyl disulfide (C₂H₆S₂).

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	0.4231	1.5152	<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	0.1301	<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	0.0000	0.0000	<0.0001	0.0000	<0.0001	0.0000	0.0000	0.0000	<0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<0.0001	0.0000
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	2.4780	<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
Totals:	5.7393	4.2062	0.0000	0.0001	0.0000	0.0001	0.0008	0.0035	0.0000	0.0001	0.0034	0.0149	0.0032	0.0141	0.5968	0.2202	0.0000	0.0001

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		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
AA-001			<0.0001	<0.0001	0.0276	0.1210	<0.0001	<0.0001	<0.0001	<0.0001	0.0158	0.0690	0.2708	1.1862	<0.0001	<0.0001
AA-001a			<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			0.0002	0.0008	0.0007	0.0030	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0010	<0.0001	<0.0001	<0.0001	<0.0001
AA-002a			0.0000	0.0000	0.0000	0.0000	<0.0001	<0.0001	<0.0001	<0.0001	0.0000	0.0000	<0.0001	<0.0001	<0.0001	<0.0001
AA-003			<0.0001	<0.0001	0.0002	0.0009	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0005	0.0030	0.0133	<0.0001	<0.0001
AA-004																
AA-005																
AA-006																
AA-006a			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0009	0.0039	0.0000	0.0001
AA-007			<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																
AA-009			<0.0001	<0.0001	0.5593	0.0796	<0.0001	<0.0001	<0.0001	<0.0001	0.2946	0.0419	3.8273	0.5448	<0.0001	<0.0001
Totals:	0.0000	0.0000	0.0002	0.0008	0.5878	0.2046	0.0000	0.0000	0.0000	0.0000	0.3107	0.1125	4.1022	1.7485	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.

Emission Point ID	GWPs ¹	CO ₂ (non-biogenic) ton/yr	CO ₂ (biogenic) ² ton/yr	N ₂ O ton/yr	CH ₄ ton/yr	SF ₆ ton/yr	PFC/HFC ³ ton/yr	Total GHG Mass Basis ton/yr ⁵	Total CO ₂ e ton/yr ⁶
AA-001	1	18570.38	0	298	25	22,800	footnote 4	18645.83	N/A
	mass GHG	18570.38	0	0.03	75.42	0	0	N/A	20465.06
	CO ₂ e	18570.38	0	9.19	1885.49	0	0	N/A	N/A
AA-001a		25.59	0	0.00	0.00	0	0	25.59	N/A
	mass GHG	25.59	0	0.01	0.01	0	0	N/A	25.62
	CO ₂ e	624.23	0	0.00	0.01	0	0	624.24	N/A
AA-002		624.23	0	0.35	0.29	0	0	N/A	624.88
	mass GHG	0.02	0	0.00	0.33	0	0	0.35	N/A
	CO ₂ e	0.02	0	0.00	8.18	0	0	N/A	8.20
AA-003		0	0	0	0	0	0	0.00	N/A
	mass GHG	0	0	0	0	0	0	N/A	0.00
	CO ₂ e	0	0	0	0	0	0	N/A	0.00
AA-004		0	0	0	0	0	0	0.00	N/A
	mass GHG	0	0	0	0	0	0	N/A	0.00
	CO ₂ e	0	0	0	0	0	0	N/A	0.00
AA-005		0	0	0	0	0	0	0.00	N/A
	mass GHG	0	0	0	0	0	0	N/A	0.00
	CO ₂ e	0	0	0	0	0	0	N/A	0.00
AA-006		0	0	0	0	0	0	0.00	N/A
	mass GHG	255.45	0	0.00	0.00	0	0	255.46	N/A
	CO ₂ e	255.45	0	0.14	0.12	0	0	N/A	255.71
AA-006a		0	0	0	0	0	0	0.00	N/A
	mass GHG	0	0	0	0	0	0	N/A	0.00
	CO ₂ e	0	0	0	0	0	0	N/A	0.00
AA-007		0	0	0	0	0	0	0.00	N/A
	mass GHG	0	0	0	0	0	0	N/A	0.00
	CO ₂ e	0	0	0	0	0	0	N/A	0.00
AA-008		0	0	0	0	0	0	0.00	N/A
	mass GHG	0	0	0	0	0	0	N/A	0.00
	CO ₂ e	0	0	0	0	0	0	N/A	0.00
AA-009		0.03	0	0	0.18	0	0	0.21	N/A
	mass GHG	0.03	0	0	4.50	0	0	N/A	4.53
	CO ₂ e	19475.70	0	0.03	75.94	0.00	0.00	19551.68	N/A
FACILITY TOTAL		19475.70	0	9.70	1898.60	0.00	0.00	N/A	21384.00

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 CO₂ in this total.

⁶ CO₂e means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the greenhouse gas by its GWP. Do not include biogenic CO₂e 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 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	31/51/1.9	89/19/18
AA-002	H	Yes	7	415	TBD	TBD	TBD	TBD	31/51/1.9	89/19/18
AA-003	N/A-Fugitives	N/A	N/A	415	N/A	N/A	N/A	N/A	31/51/1.9	89/19/18
AA-004	N/A-Separator	N/A	N/A	415	N/A	N/A	N/A	N/A	31/51/1.9	89/19/18
AA-005	N/A-Separator	N/A	N/A	415	N/A	N/A	N/A	N/A	31/51/1.9	89/19/18
AA-006	N/A-Heater Treater	N/A	N/A	415	N/A	N/A	N/A	N/A	31/51/1.9	89/19/18
AA-006a	N/A flared			415					31/51/1.9	89/19/18
AA-007	N/A-Tanks	N/A	N/A	415	N/A	N/A	N/A	N/A	31/51/1.9	89/19/18
AA-008	N/A-Tanks	N/A	N/A	415	N/A	N/A	N/A	N/A	31/51/1.9	89/19/18
AA-009	N/A-Truck Loading	N/A	N/A	415	N/A	N/A	N/A	N/A	31/51/1.9	89/19/18

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-006A
- B. Equipment Description: One (1) Heater Treater, with a 0.5 MMBTUH burner.
- C. Manufacturer: Custom D. Date of Manufacture and No.: 2019
- E. Maximum Heat Input (higher heating value): 0.5 MMBtu/hr F. Nominal Heat Input Capacity: 0.5 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.): Forced Draft
- J. Additional Design Controls (e.g., FGR, etc.): N/A
- 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
Field Gas	1,000 BTU/CF	< 0.001	< 0.001	490	4.3 MMCF

Please list any fuel components that are hazardous air pollutants and the percentage in the fuel:
No analyzed HAP's have been identified as components in the fuel; however, AP-42, Tables 1.4-2, 1.4-3, and 1.4-4 project certain HAP's to be potentially present in exhaust vapors.

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-001a
- B. Equipment Description: One (1) flare for flaring gas, including a 0.05 MMBTUH Field-Gas Fired Pilot.
- C. Manufacturer: Custom D. Date of Manufacture and No.: 2019
- E. Maximum Heat Input (higher heating value): 0.05 MMBtu/hr F. Nominal Heat Input Capacity: 0.05 MMBtu/hr
- G. Use: Line Heater Heater Treater TEG Burner
 Space Heat Process Heat Other (describe): Flare Pilot
- H. Heat Mechanism: Direct Indirect
- I. Burner Type (e.g., forced draft, natural draft, etc.): Forced Draft
- J. Additional Design Controls (e.g., FGR, etc.): N/A
- 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
Field Gas	1,000 BTU/CF	< 0.001	< 0.001	varies	varies

Please list any fuel components that are hazardous air pollutants and the percentage in the fuel:
No analyzed HAP's have been identified as components in the fuel; however, AP-42, Tables 1.4-2, 1.4-3, and 1.4-4 project certain HAP's to be potentially present in exhaust vapors.

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 – Internal Combustion Engines

Section OPGP- D

1. Emission Point Description

- A. Emission Point Designation (Ref. No.): AA-002
- B. Equipment Description (including serial number): 165 HP RICE for power oil pump
- C. Manufacturer: TBD D. Date of Manufacture and Model No.: Pre- 2006
- E. Maximum Heat Input (higher heating value): 1.22 MMBtu/hr
- F. Rated Power: 165 hp 123 kW
- G. Is the engine an EPA-certified engine? No Yes or No
- H. Use: Non-emergency Emergency
- I. Displacement per cylinder: < 10 Liters 10 to <30 Liters ≥ 30 Liters
- J. Engine Ignition Type: Spark Ignition Compression Ignition
- K. Engine Burn Type: 4-stroke 2-stroke Rich Burn Lean Burn
(check all that apply)
- L. Status: Operating Proposed Under Construction
- M. Date of construction, reconstruction, or most recent modification (for existing sources) or date of anticipated construction: Pre- 2006

2. Fuel Type

Complete the following table, identifying each type of fuel and the amount used. Specify units of measurement.

FUEL TYPE	HEAT CONTENT	% SULFUR	% ASH	MAXIMUM HOURLY USAGE	MAXIMUM YEARLY USAGE
Nat. Gas/propane	1020 BTU/Ft3	0.00004	0.0	1.20 MCF	10,478

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

Flare

Section OPGP-F

1. Equipment Description

- A. Emission Point Designation (Ref. No.): AA-001
- B. Equipment Description (include the process(es) that the flare controls emissions from): The flare is utilized to combust produced gas, and to combust emissions from the heater treater and oil and water storage tanks.
- C. Manufacturer: Custom D. Model: Custom
- E. Status: Operating Proposed Under Construction
- F. Requesting a federally enforceable condition to route tank emissions to the flare.

2. System Data

- A. Efficiency: 98 % Controlling the following pollutant(s): VOC
 Efficiency: 98 % Controlling the following pollutant(s): HAP
 Reason for different efficiency: _____
- B. Flare Data (if applicable):
1. Flare type: Non-assisted Steam-assisted Air-assisted
 Other: _____
2. Net heating value of combusted gas: Est. 1,000 Btu/scf
3. Design exit velocity: N/A ft/sec
4. System: Auto-ignitor Continuous Flame
5. Is the presence of a flare pilot flame monitored? Yes No
 If yes, please describe the monitoring: thermocouple
6. Is the auto-ignitor system monitored? Yes No
 If yes, please describe the monitoring: Daily inspections

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 Ex. 40 CFR Part _____, Subpart _____ 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
<i>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.</i>				
AA-001 Flare and facility wide	11 Miss. Admin. Code Pt. 2, R.1.4.B(2).	4/01/2020 (est.)	05/01/2020 (est.)	N/A
AA-002 Engines	40 CFR 63, Subpart ZZZZ	4/01/2020 (est.)	5/01/2020 (est.)	N/A
AA-002, Engines, AA-006a, Burner	11 Miss. Admin. Code Pt. 2, R.1.3.B.	4/01/2020 (est.)	5/01/2020 (est.)	N/A
AA-002, Engines, AA-006a, Burner	11 Miss. Admin. Code Pt. 2, R.1.3.D(1)(a).	4/01/2020 (est.)	5/01/2020 (est.)	N/A
AA-003 Fugitive Emissions	40 CFR 60, Subpart OOOOa	4/01/2020 (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 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 ₂ S	1 grain H ₂ S per 100 standard cubic feet (1 gr/100 scf)	Recordkeeping of H ₂ S composition of gas by gas analysis; Maintenance of continuous flame for gas combustion.
<i>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.</i>				
AA-001, Flare & facility wide	1 Miss. Admin. Code Pt. 2, R.1.4.B(2).	H ₂ S	Any gas stream containing as much as 1 grain H ₂ S per 100 standard cubic feet (1 gr/100 scf) must be incinerated prior to discharge to the atmosphere	Recordkeeping of H ₂ S composition of gas by gas analysis; Maintenance of continuous flame for gas combustion.
AA-002, Engines	40 CFR 63, subpart ZZZZ, (§63.6590(a))	HAP	Applicability	Applicability Only
AA-002, 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

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.

Section OPGP-G

EMISSION UNIT (Ref No.)	APPLICABLE REQUIREMENT (Specific Regulatory citation)	POLLUTANT	LIMITS/ REQUIREMENTS	TEST METHOD/ COMPLIANCE MONITORING
AA-002, Engines	40 CFR 63, subpart ZZZZ, (§63.6605)	HAP	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, Engines	40 CFR 63, subpart ZZZZ, (§63.6640 (a) and Table 6)	HAP	Continuous compliance and General Duty to operate and maintain in a manner consistent with safety and good air pollution control practices to minimize emissions i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan	Process Knowledge
AA-002, Engines	40 CFR 63, subpart ZZZZ, (§63.6655 (a),(d) and (e))	HAP	Recordkeeping Requirements	Recordkeeping
AA-002, Engines	40 CFR 63, subpart ZZZZ, (§63.6660 (a),(b) and (c))	HAP	General recordkeeping requirements	Recordkeeping
AA-002, Engines	40 CFR 63, subpart ZZZZ, (§63.6640 (b))	HAP	Report any failure to perform a required work practice as scheduled	Reporting
AA-002, 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. Federally enforceable limit requested for avoidance.

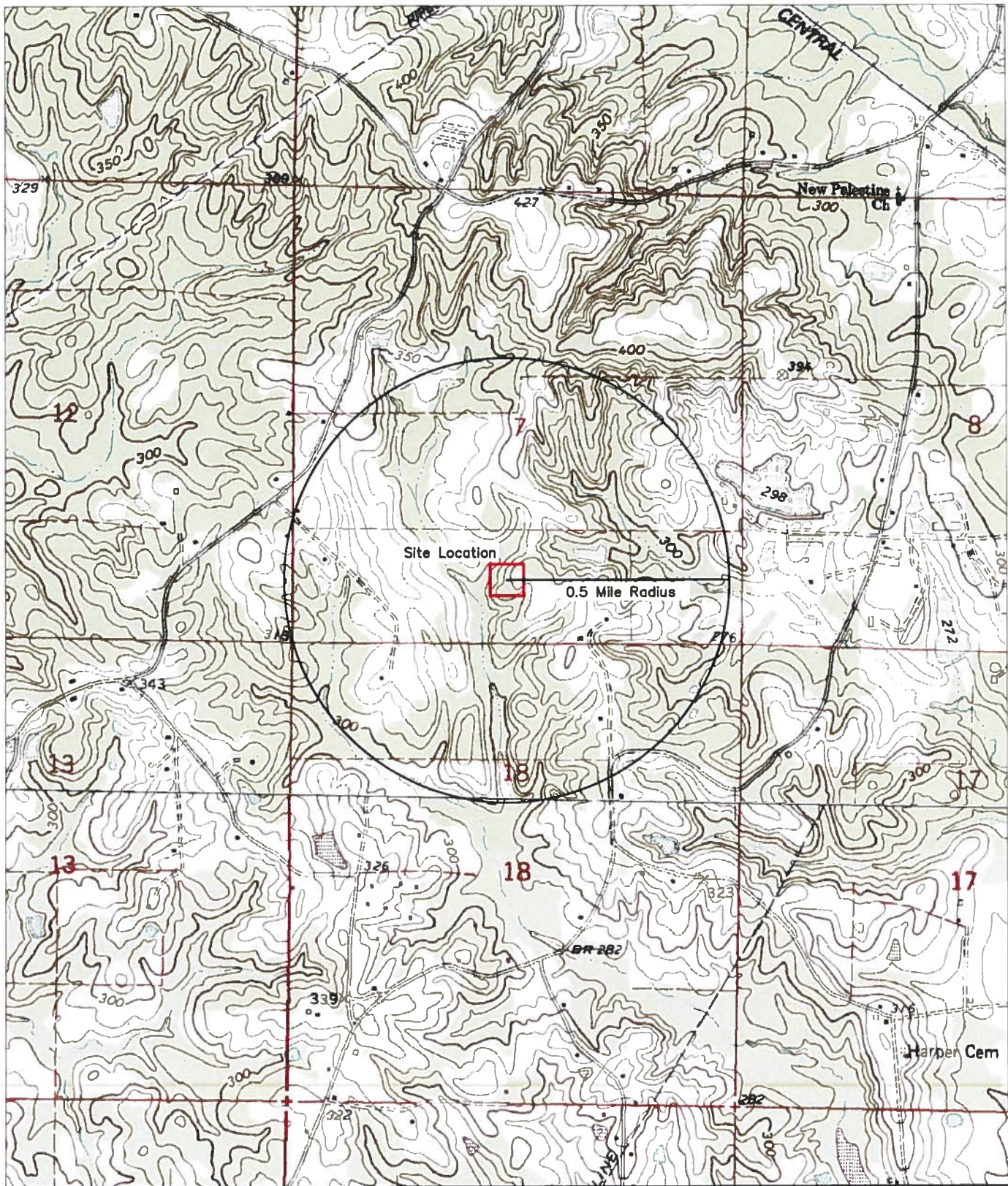
LIST OF FIGURES

ORIGINAL

**FIGURE 1:
SITE TOPOGRAPHICAL MAP**

R E C E I V E D
FEB 25 2020

MDEQ



Venture Oil & Gas, LLC
Herring 7-14 #1
Taylorsville, MS 39168

Figure Number: 1
Figure Name: Site Topo Map
Drawn By: TF
Date Drawn: 2/18/20

ORIGINAL

**FIGURE 2:
SITE AERIAL VIEW**

RECEIVED
FEB 25 2020

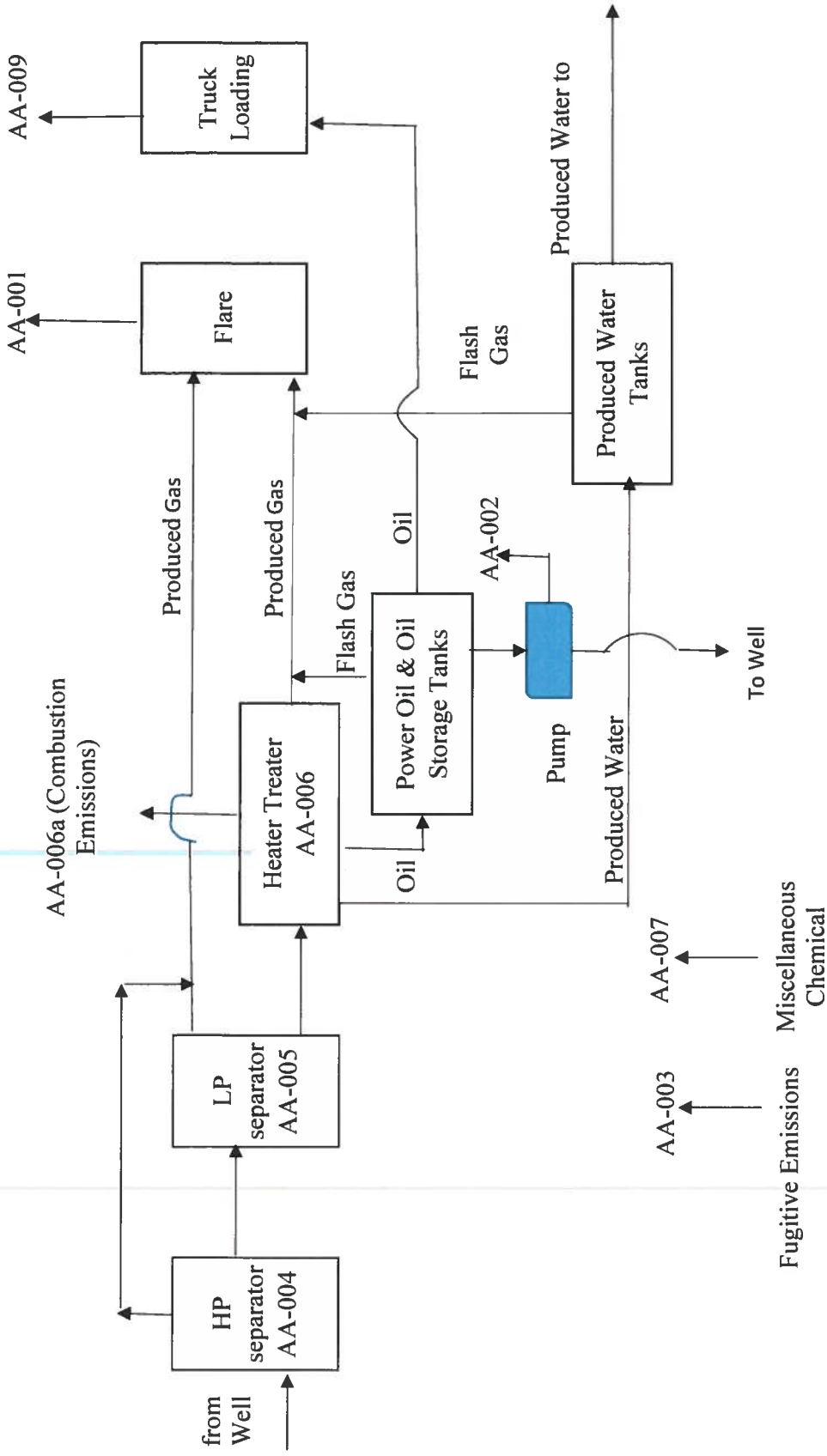
MDEQ



FIGURE 3:
PROCESS FLOW DIAGRAM

ORIGINAL

Venture Oil and Gas
Herring 7-14 No. 1 Tank Battery
Process Flow Diagram



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ORIGINAL

**FIGURE 4:
SITE LAYOUT DIAGRAM**

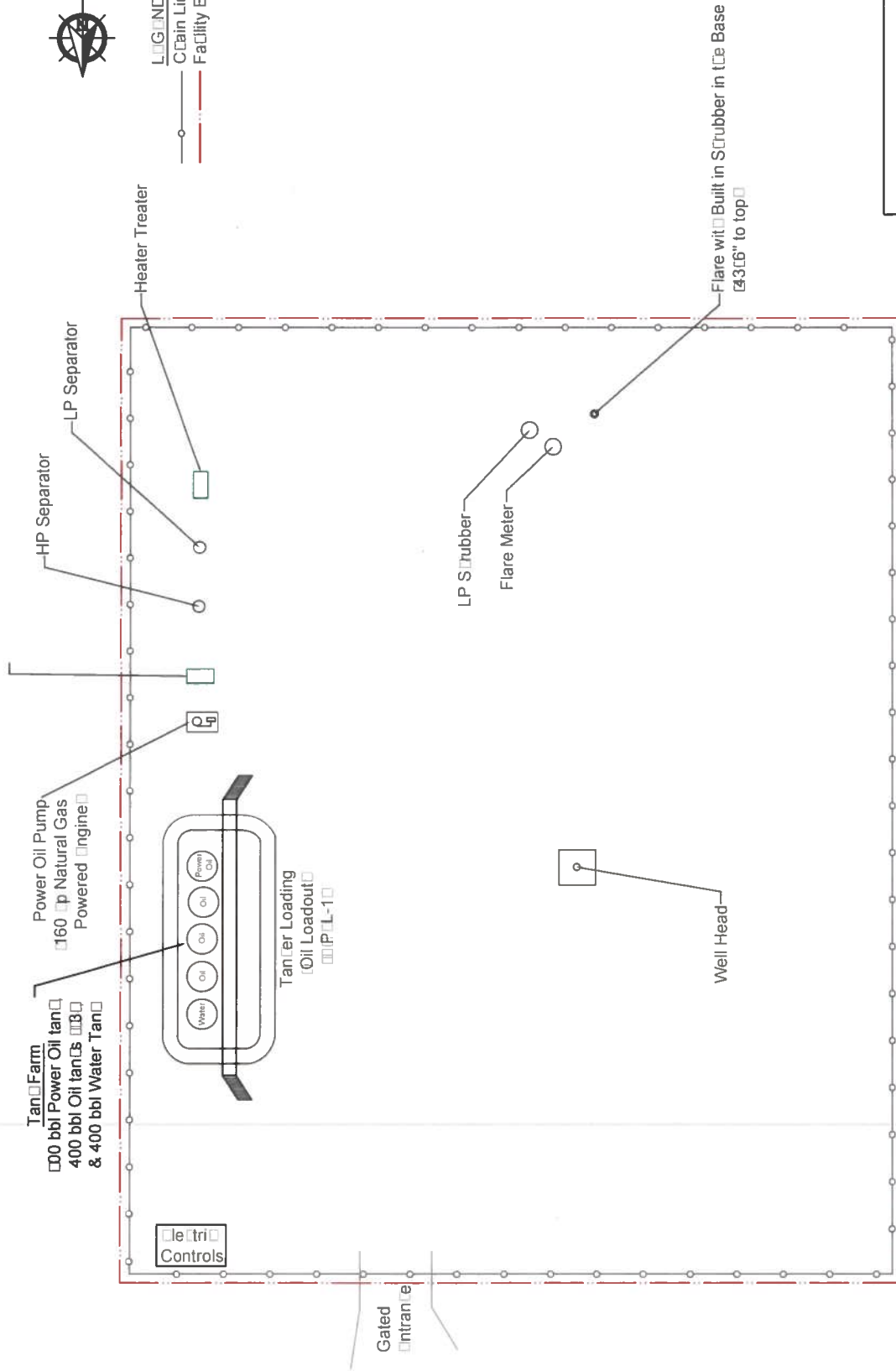
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LEGEND

- Chain Line
- Facility Boundary



VENTRIL OIL & GAS, INC.

PROCESS LAYOUT

Herring 7-14 No. 1

Jones County, Mississippi

FC&E ENGINEERING, LLC
 BRANDON, MISSISSIPPI
 (601) 824-1860



Drawn By: EC - Reviewed By: TC - Date Drawn: 2/11/2020

ORIGINAL

APPENDIX B

Calculations for Venture Herring 7-14 No. 1 Tank Battery

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Site Information for Calculations

Site Name: King 8-7 No. 1 Tank Battery	
Potential Crude Production	109,500 bbl/yr
Potential Gas Production	219,000 mcf/yr
Potential Produced Water	3,650 bbl/yr
Initial Crude Production	350 bbl/day (expected maximum daily production)
Initial Gas Production	750 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 tank Flash 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-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	16,000	gal/hr	As needed

Note: Storage tanks, separators, 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	0.29	0.29	0.29	33.08	10.75	58.50	0.00	1.5152	18570.38	75.42	0.03	20465.06			
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	0.01	0.00	624.88			
AA-003	Fugitive emissions- equipment leaks	-	-	-	0.28	-	-	-	0.0159	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)	0.00408	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			
Totals		0.35	0.42	0.42	50.30	22.81	78.61	0.00	2.4780	19476.72	76.01	0.03	21386.71			

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	-	-	-	1653.95	-	-	-	-	-	-	-	75.76	346.68	4749.63	0.00	119087.32
AA-002	Power Oil Pump Engine	0.051	0.104	0.104	0.16	11.83	19.91	0.003	0.17	0.00	0.00	0.00	0.17	624.23	0.01	0.00	624.88
AA-003	Fugitive emissions- equipment leaks	-	-	-	0.28	-	-	-	0.02	-	-	-	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	0.00	0.00	0.00	0.0041	232.23	0.00	0.00	232.47
AA-007	Misc. Chemical Tanks	-	-	-	0.02	-	-	-	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
	Totals	0.05	0.12	0.12	1671.17	12.04	20.09	0.00	76.72	1203.21	4760.22	0.00	119969.12				

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	0.07	0.07	0.07	7.55	2.45	13.36	0.00	0.42	4239.81	17.22	0.01	4672.39			
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	0.00	0.00	142.67			
AA-003	Fugitive emissions- equipment leaks	-	-	-	0.06	-	-	-	0.00	0.01	0.07	0.00	1.87			
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			
	Totals	0.08	0.09	0.09	125.38	5.21	17.96	0.001	5.74	4446.51	17.35	0.01	4882.58			

Notes:

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
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

	<u>Potential</u>		<u>Initial</u> <u>Production</u>	
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:

		<u>Potential</u>
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	=	7553.91 tpy
	=	219000.00 mcf/yr
Produced gas combustion heat	=	296307.00 MMBtu/yr
process gas combustion heat	=	19903.96 MMBtu/yr
flare gas combustion heat, total	=	316210.96 MMBtu/yr

Calculation	<u>Pollutant</u>	<u>Emission factor, lbs/MMBtu</u>	<u>Potential Emissions</u>		<u>Pollutant</u>	<u>Potential Emissions</u>	
			<u>lb/hr</u>	<u>tpy</u>		<u>lb/hr</u>	<u>tpy</u>
	NOx	0.068	2.455	10.751	n-hexane	0.2708	1.1862
	CO	0.37	13.356	58.499	benzene	0.0297	0.1301
	PM	0.00186	0.004	0.294	e-benzene	0.0020	0.0088
	VOC	mass balance	7.552	33.079	toluene	0.0276	0.1210
	SO ₂	mass balance	0.000	0.000	xylenes	0.0158	0.0690
	PM10/PM2.5	0.00745	0.269	1.178	Total HAPs	0.3459	1.5152

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 efficiency 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 Maximum Hourly Criteria and Hazardous Flare Emissions
 Using Initial Production Values**

Gas Flow to Flare:

		<u>Potential</u>
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	=	2155.80 lbs/hr
	:	31.25 mcf/hr
Produced gas combustion heat	=	42.28 MMBtu/hr
process gas combustion heat	=	2.65 MMBtu/hr
flare gas combustion heat, total	=	44.93 MMBtu/hr

	<u>Pollutant</u>	<u>Emission factor, lbs/MMBtu</u>	<u>Maximum Hourly Emissions</u>		<u>Pollutant</u>	<u>Potential Emissions</u>
			<u>lb/hr</u>			<u>lb/hr</u>
	NOx	0.068	3.055		n-hexane	0.3322
Calculation	CO	0.37	16.625		benzene	0.0361
	PM	0.00745	0.335		e-benzene	0.0025
	VOC	mass balance	9.338		toluene	0.0334
	SO ₂	mass balance	0.000		xylenes	0.0190
					Total HAPs	0.4231

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 efficiency 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

		<u>Potential</u>
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	=	7553.91 tpy

<u>Pollutant</u>	<u>Emission factor, lbs/MMBtu</u>	<u>Potential Emissions</u>	
		<u>lb/hr</u>	<u>tpy</u>
VOC	mass balance	377.614	1653.95
H2S	mass balance	0.000	0.00
n-hexane	mass balance	13.541	59.31
benzene	mass balance	1.486	6.51
e-benzene	mass balance	0.101	0.44
toluene	mass balance	1.382	6.05
Calculation xylenes	mass balance	0.788	3.45
total HAPs	mass balance	17.297	75.76
methane	mass balance	1084.389	4749.63
CO2	mass balance	79.152	346.68

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)		CO2 input tpy	CH4, uncombusted		N2O tpy ¹	CO2e tpy
	cubic ft.	tpy		cubic ft.	tpy ¹		
1	9.13E+05	5.28E+01 *	1.69E+00	1.86E+04	3.94E-01	1.10E-03	1.19E+01
2	1.03E+06	5.93E+01					5.28E+01
3	4.69E+06	2.71E+02					5.93E+01
4	1.04E+07	6.00E+02					2.71E+02
5+	1.06E+07	6.11E+02					6.00E+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 219.00

carbon atoms	CO2 (from combustion)		CO2 input tpy	CH4, uncombusted		N2O tpy	CO2e tpy
	cubic ft.	tpy		cubic ft.	tpy		
1	1.74E+08	1.01E+04	2.73E+02	3.55E+06	7.50E+01	2.98E-02	2.16E+03
2	3.88E+07	2.25E+03					1.01E+04
3	4.66E+07	2.70E+03					2.25E+03
4	1.69E+07	9.79E+02					2.70E+03
5+	1.22E+07	7.08E+02					9.79E+02
Total	2.89E+08	1.67E+04	2.73E+02	3.55E+06	7.50E+01	2.98E-02	1.89E+04

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	CO ₂	CH ₄	CO ₂ e
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:												
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											
gas/vapor	0	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:												
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											
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.

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	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	4	1

	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

ENGINE POTENTIAL EMISSIONS CALCULATIONS

Engine No.	HP	Heat Input mmBtu/hr	Emissions, tpy										GHG Emissions, tons/yr			
			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	0.10	624.23	1.18E-02	0.001	624.88		
Total			11.83	0.16	19.91	0.00	0.05	0.10	0.10	0.10	624.23	0.01	0.00	624.88		

AP-42

Pollutant	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	
		lbs/hr	tpy
1,1,2,2-Tetrachloroethane	2.53E-05	3.09E-05	1.35E-04
1,1,2-Trichloroethane	1.53E-05	1.87E-05	8.19E-05
1,3-Butadiene	6.63E-04	8.10E-04	3.55E-03
1,3-Dichloropropene	1.27E-05	1.55E-05	6.80E-05
Acetaldehyde	2.79E-03	3.41E-03	1.49E-02
Acrolein	2.63E-03	3.21E-03	1.41E-02
Benzene	1.58E-03	1.93E-03	8.46E-03
Carbon Tetrachloride	1.77E-05	2.16E-05	9.47E-05
Chlorobenzene	1.29E-05	1.58E-05	6.90E-05
Chloroform	1.37E-05	1.67E-05	7.33E-05
Ethylbenzene	2.48E-05	3.03E-05	1.33E-04
Ethylene Dibromide	2.13E-05	2.60E-05	1.14E-04
Formaldehyde	2.05E-02	2.50E-02	1.10E-01
Methanol	3.06E-03	3.74E-03	1.64E-02
Methylene Chloride	4.12E-05	5.03E-05	2.20E-04
Naphthalene	9.71E-05	1.19E-04	5.20E-04
PAH	1.41E-04	1.72E-04	7.55E-04
Styrene	1.19E-05	1.45E-05	6.37E-05
Toluene	5.58E-04	6.82E-04	2.99E-03
Vinyl Chloride	7.18E-06	8.77E-06	3.84E-05
Xylene	1.95E-04	2.38E-04	1.04E-03
Total		3.96E-02	1.73E-01

AA-002 heat input= 1.22 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

$$L_L = 12.46 * (SPM)/T \quad \text{(from EPA AP-42 Section 5.2.2.1)}$$

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	Mol. Wt. Of Vapors	Temp. of Liquid	Sales Volume	Loadin g Rate	Uncontrolled Estimated Emissions, Total Hydrocarbons		
	(psia)	(lb/lb-mole)	(R)	(10 ³ gal/yr)	(gal/hr)	L_L	(lb/hr)	(tpy)
1.45	5	48.00	545	4,599	16,000	7.96	127.30	18.30

PRODUCED WATER

EPA "S" Factor	True VP of Liquid	Mol. Wt. Of Vapors	Temp. of Liquid	Loaded Volume	Loadin g Rate	Uncontrolled Estimated Emissions, Total Hydrocarbons		
	(psia)	(lb/lb-mole)	(R)	(10 ³ gal/yr)	(gal/hr)	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

$L_L = 12.46 \cdot (SPM)/T$ (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	Mol. Wt. Of Vapors	Temp. of Liquid	Sales Volume	Loadin g Rate	Uncontrolled Estimated Emissions, Total Hydrocarbons	
	(psia)	(lb/lb-mole)	(R)	(10 ³ gal/hr)	(gal/hr)	L _L	(lb/hr)
1.45	5	48.00	545	16.0	16,000	7.96	127.30

PRODUCED WATER

EPA "S" Factor	True VP of Liquid	Mol. Wt. Of Vapors	Temp. of Liquid	Loaded Volume	Loadin g Rate	Uncontrolled Estimated Emissions, Total Hydrocarbons	
	(psia)	(lb/lb-mole)	(R)	(10 ³ gal/hr)	(gal/hr)	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

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
		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
Totals		0.004	0.016	0.016	0.215	0.180	0.012	0.001	0.004	255.45	0.00	0.00	255.72

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

Natural Gas Combustion HAP Calculations

HAP	Natural Gas Emission Factor, lbs/mmBtu	Heater Treater HAP EMISSIONS		Flare Pilot HAP EMISSIONS	
		lbs/hr	tpy	lbs/hr	tpy
Benzene	2.06E-06	1.03E-06	4.51E-06	1.03E-07	4.51E-07
Dichlorobenzene	1.18E-06	5.88E-07	2.58E-06	5.88E-08	2.58E-07
Formaldehyde	7.35E-05	3.68E-05	1.61E-04	3.68E-06	1.61E-05
Hexane	1.76E-03	8.82E-04	3.86E-03	8.82E-05	3.86E-04
Naphthalene	5.98E-07	2.99E-07	1.31E-06	2.99E-08	1.31E-07
Polycyclic Organic Matter	2.38E-05	1.19E-05	5.21E-05	1.19E-06	5.21E-06
Toluene	3.33E-06	1.67E-06	7.30E-06	1.67E-07	7.30E-07
Total		9.35E-04	4.09E-03		

Burner Heat Input= 0.50 mmBtu/hr

Flare Pilot Heat Input= 0.05 mmBtu/hr

annual operating hours= 8760

Emission factors from AP-42, Table 1.4-3

FLARE PILOT CALCULATIONS

Emission Unit ID	Combustion Source	Capacity MMBTUH	Criteria Emissions, tons/yr							
			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 MMBTUH	GHG Emissions, metric tons/yr				GHG Emissions, short tons/yr			
			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

<u>AP-42 Emission Factors, lbs/MMBtu</u>		<u>Emission Factors, kg/MMBtu</u>	
TSP	0.001863	CO2	53.02
PM10	0.007451	CH4	0.001
PM2.5	0.007451	N2O	0.0001
NOx	0.098039		
CO	0.082353		
VOC	0.005392		
SO2	0.000588		
HAPs	0.001851		

ORIGINAL

**APPENDIX B:
BACKUP DOCUMENTATION**

RECEIVED
FEB 25 2020

MDEQ



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 332 Luther Hill Road, A Ellisville, MS 39437	Incorporator

William Edward Carpenter 112 Westminister Drive Hattiesburg, MS 39401	Incorporator
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Jay Donald Fenton 332 Luther Hill Rd Ellisville, MS 39437	Director, President
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Neil Scrimshire 9 Heritage Trail Laurel, MS 39440	Director, Secretary, Vice President
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TANKS 4.0.9d
Emissions Report - Summary Format
Tank Identification and Physical Characteristics

Identification

User Identification: Anti-Foam Tank
 City: Stringer
 State: Mississippi
 Company: Venture Oil
 Type of Tank: Horizontal Tank
 Description: 250-Gallon Anti-Foam Tank

Tank Dimensions

Shell Length (ft): 5.00
 Diameter (ft): 5.00
 Volume (gallons): 250.00
 Turnovers: 1.46
 Net Throughput(gal/yr): 365.00
 Is Tank Heated (y/n): N
 Is Tank Underground (y/n): N

Paint Characteristics

Shell Color/Shade: White/White
 Shell Condition: Good

Breather Vent Settings

Vacuum Settings (psig): -0.03
 Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Jackson, Mississippi (Avg Atmospheric Pressure = 14.59 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

Anti-Foam Tank - Horizontal Tank
Stringer, Mississippi

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract	Vapor Mass Fract	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg	Min	Max		Avg	Min	Max					
Toluene	All	66.19	60.06	72.32	64.24	0.3992	0.3307	0.4793	92.1300			92.13	Option 2: A=6.954, B=1344.8, C=219.48

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

Anti-Foam Tank - Horizontal Tank Stringer, Mississippi

Components	Losses(lbs)		
	Working Loss	Breathing Loss	Total Emissions
Toluene	0.32	7.47	7.79

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Identification and Physical Characteristics

Identification

User Identification: Corrosion Inhibitor Tank
 City: Stringer
 State: Mississippi
 Company: Venture Oil
 Type of Tank: Horizontal Tank
 Description: 55-Gallon Corrosion Inhibitor Drum(s)

Tank Dimensions

Shell Length (ft): 5.00
 Diameter (ft): 3.00
 Volume (gallons): 55.00
 Turnovers: 20.00
 Net Throughput(gal/yr): 1,095.00
 Is Tank Heated (y/n): N
 Is Tank Underground (y/n): N

Paint Characteristics

Shell Color/Shade: White/White
 Shell Condition: Good

Breather Vent Settings

Vacuum Settings (psig): -0.03
 Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Jackson, Mississippi (Avg Atmospheric Pressure = 14.59 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

Corrosion Inhibitor Tank - Horizontal Tank
Stringer, Mississippi

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol Weight	Liquid Mass Fract	Vapor Mass Fract	Mol Weight	Basis for Vapor Pressure Calculations
		Avg	Min	Max		Avg	Min	Max					
Toluene	All	66.19	60.06	72.32	64.24	0.3992	0.3307	0.4793	92.1300			92.13	Option 2: A=6.954, B=1344.8, C=219.48

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

Corrosion Inhibitor Tank - Horizontal Tank
Stringer, Mississippi

Components	Losses(lbs)		
	Working Loss	Breathing Loss	Total Emissions
Toluene	0.96	2.74	3.70

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Identification and Physical Characteristics

Identification

User Identification: Emulsion Breaker Tank
 City: Stringer
 State: Mississippi
 Company: Venture Oil
 Type of Tank: Horizontal Tank
 Description: 250-Gallon Emulsion Breaker Tank

Tank Dimensions

Shell Length (ft): 5.00
 Diameter (ft): 5.00
 Volume (gallons): 250.00
 Turnovers: 2.92
 Net Throughput(gal/yr): 730.00
 Is Tank Heated (y/n): N
 Is Tank Underground (y/n): N

Paint Characteristics

Shell Color/Shade: White/White
 Shell Condition: Good

Breather Vent Settings

Vacuum Settings (psig): -0.03
 Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Jackson, Mississippi (Avg Atmospheric Pressure = 14.59 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

Emulsion Breaker Tank - Horizontal Tank
Stringer, Mississippi

Mixture/Component	Month	Daily Liquid Surf Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract	Vapor Mass Fract	Mol Weight	Basis for Vapor Pressure Calculations
		Avg	Min	Max		Avg	Min	Max					
Toluene	All	66.19	60.06	72.32	64.24	0.3992	0.3307	0.4793	92.1300			92.13	Option 2: A=6.954, B=1344.8, C=219.48

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

Emulsion Breaker Tank - Horizontal Tank
Stringer, Mississippi

Components	Losses(lbs)		
	Working Loss	Breathing Loss	Total Emissions
Toluene	0.64	7.47	8.11

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Identification and Physical Characteristics

Identification

User Identification: Methanol Tank
 City: Stringer
 State: Mississippi
 Company: Venture Oil
 Type of Tank: Horizontal Tank
 Description: 330-Gallon Methanol Tank

Tank Dimensions

Shell Length (ft): 5.00
 Diameter (ft): 5.00
 Volume (gallons): 330.00
 Turnovers: 2.21
 Net Throughput(gal/yr): 730.00
 Is Tank Heated (y/n): N
 Is Tank Underground (y/n): N

Paint Characteristics

Shell Color/Shade: White/White
 Shell Condition: Good

Breather Vent Settings

Vacuum Settings (psig): -0.03
 Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Jackson, Mississippi (Avg Atmospheric Pressure = 14.59 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

Methanol Tank - Horizontal Tank
Stringer, Mississippi

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract	Vapor Mass Fract	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg	Min	Max		Avg	Min	Max					
Methyl alcohol	All	66.19	60.06	72.32	64.24	1.7478	1.4448	2.1035	32.0400			32.04	Option 2: A=7.897, B=1474.08, C=229.13

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

Methanol Tank - Horizontal Tank
Stringer, Mississippi

Components	Losses(lbs)		
	Working Loss	Breathing Loss	Total Emissions
Methyl alcohol	0.97	17.15	18.13

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: 2/27/2020

Venture Oil & Gas Herring 7-14 facility located at latitude 31.75711, longitude -89.34203, in Jones County approximately 4 miles west of Soso, Mississippi, (601) 518-0622, has applied to the Mississippi Department of Environmental Quality (MDEQ) for coverage and/or modification 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/or operation of an oil and gas production site including well, separators, oil and water storage tanks, engine for a well pump, and a flare to control gas emissions. Venture is requesting a federally enforceable permit requirement that the storage tank emissions be routed to the flare at all times the facility is in operation. 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 Laurel-Jones County Library located at 530 Commerce Street in Laurel, MS, and at the following location during normal business hours:

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

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