



PRUETT PRODUCTION CO.

217 WEST CAPITOL STREET / SUITE 201 • JACKSON, MISSISSIPPI 39201

January 9, 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: Pruett Production Company.
Board of Education 16-10 No. 1 Facility
AI# 72370, Permit No. 2420-00053
Scott County, MS

Pruett Production Company is submitting the enclosed completed request for coverage under the Mississippi Oil Production General Permit in lieu of a renewal application for the Synthetic Minor Operating Permit which expires July 31, 2023.

If you have any questions, please feel free to contact me at (601) 718-9423 or Toby Cook at (601) 613-1915.

Sincerely,

J. David Hilton
Vice President-Production

RECEIVED
JAN 10 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: 1/18/2023

Pruet Production Company Board of Education 16-10 No. 1 facility located at Lat.32.27460, Long-89.68685, Scott County, MS, approximately 5.5 miles southwest of Morton, MS, in Section 16, T5N, R6E, (601) 748-9423, has applied to the Mississippi Department of Environmental Quality (MDEQ) for coverage under MDEQ's Oil Production General Permit to 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 existing facility currently operates under Air permit No. 2420-00053 and consists of an oil and gas production site including well, oil and water storage tanks, electric well pump, and a flare to control gas emissions. Pruet 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 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

Morton Public Library
16 E. Fourth Ave.
Morton, MS 39117

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

OIL PRODUCTION GENERAL PERMIT NOTICE OF INTENT



Pruet Production Company
Board of Education 16-10 No. 1 Facility
Scott County, Mississippi

Submittal Date: January 2023

PREPARED BY:

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



EXECUTIVE SUMMARY

Pruet Production Company (Pruet) is submitting this Notice of Intent for the purpose of replacing the SMOP for the Pruet Board of Education 16-10 facility located in Scott county. The facility is located in Section 24, Township 3N, Range 5E, in Scott County, Mississippi. The facility now includes the well, an electric power-oil pump, crude oil and produced water storage tanks, and a flare. The heater treater, which was never connected to a fuel supply, has been bypassed so that all gas emissions are emitted from the storage tanks. This change in operation was required due to the decline in oil and gas production as the well transitioned from a flowing well to a well produced by pumping. Production rates are typically 30 to 40 thousand cubic feet (MCF) of gas produced per day and 35 to 40 barrels (bbl) of oil produced per day, along with 1 bbl/day or less of produced water. A pipeline outlet does not exist for the gas; therefore, all gas is flared.

Pruet is requesting a federally enforceable requirement for flaring of tank emissions. Emissions associated with truck loading will be vented to the atmosphere. Pruet may also operate various small chemical storage vessels, including totes and drums, which are typically associated with well pad activities.

Consequently, Pruet 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) exceed the threshold limit to be classified as a True Minor Source. Therefore, Pruet proposes to restrict facility operations such that the flare is operated at all times during gas venting. Combustion of produced gas from the well, which vents from the power oil tank, and gas off of the other 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. Pruet will monitor the volume of gas flared using an approved calculation methodology due to the difficulty in utilizing a flow meter on atmospheric pressure tanks. Pruet will calculate corresponding monthly VOC emissions due to flaring of gas from all sources. Monthly oil production records, gas sampling 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.

**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: Pruet Production Company

B. Facility Name (if different than A. above): Board of Education 16-10 No. 1

C. Facility Air Permit/Coverage No. (if known): 2420-00053

D. Agency Interest No. (if known): 72370

E. Physical Address

1. Street Address: 5629 Highway 13 South

2. City: Morton 3. State: MS

4. County: Scott 5. Zip Code: 39117

6. Telephone No.: 601-748-9423 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: 217 W Capital Street Suite 201

2. City: Jackson 3. State: MS

4. Zip Code: 39201

G. Latitude/Longitude Data

1. Collection Point (check one):

☐ Site Entrance ☒ Other: well location

2. Method of Collection (check one):

☒ GPS Specify coordinate system (NAD 83, etc.) _____

☐ Map Interpolation (Google Earth, etc.) ☐ Other: _____

3. Latitude (degrees/minutes/seconds): 32/16/29.172N

4. Longitude (degrees/minutes/seconds): neg89/41/12.84W

5. Elevation (feet): 529

H. SIC Code: 1311

2. Name and Address of Facility Contact

A. Name: J. David Hilton Title: VP-Production

B. Mailing Address

1. Street Address or P.O. Box: 217 W. Capital Suite 201

2. City: Jackson 3. State: MS

4. Zip Code: 39201 5. Fax No.: _____

6. Telephone No.: 601-748-9423

7. Email: dhilton@pruet.com

**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: J. David Hilton Title: VP-Production

B. Mailing Address

1. Street Address or P.O. Box: 217 W. Capital Street Suite 201

2. City: Jackson 3. State: MS

4. Zip Code: 39201 5. Fax No.: _____

6. Telephone No.: 601-748-9423

7. Email: dhilton@pruet.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	60	MMCF/day
Oil	66	barrels/day
Water	1	barrels/day
Other (Specify)		

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

Produced Material	Throughput	Units
Flared Gas	60	MMCF/day
Oil	66	barrels/day
Water	1	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:	<u>217 W. Capital Street, Suite 201</u>	
2. City:	<u>Jackson</u>	3. State: <u>MS</u>
4. County:	<u>Hinds</u>	5. Zip Code: <u>39201</u>
6. Telephone No.:	<u>601-748-9423</u>	7. Fax No.: <u></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

1/9/23

Date

J. David Hilton

Printed Name

1/9/23

Date

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.

[illegible]

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 (C₂H₄S₂).

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.

[illegible]

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).

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.

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.

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.

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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 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
Emission Point ID	GWP _s ¹	1	1	298	25	22,800	footnote 4							
AA-001	mass GHG	1907.95	0	0.00	5.73	0	0						1913.68	N/A
	CO ₂ e	1907.95	0	0.91	143.15	0	0						N/A	2052.02
AA-003	mass GHG	0	0	0	0	0	0						0.25	N/A
	CO ₂ e	0	0	0	6	0	0						N/A	6.21
AA-005	mass GHG	0	0	0	0	0	0						0.00	N/A
	CO ₂ e	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 ₂ e	0	0	0	0	0	0						N/A	0.00
AA-007	mass GHG	0	0	0	0	0	0						0.00	N/A
	CO ₂ e	0	0	0	0	0	0						N/A	0.00
FACILITY TOTAL	mass GHG	1907.95	0	0.00	5.97	0.00	0.00						1913.93	N/A
	CO ₂ e	1907.95	0	0.91	149.36	0.00	0.00						N/A	2058.23

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 (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	32/16/29.172N	89/41/12.84W
AA-003	N/A-Fugitives	N/A	N/A	415	N/A	N/A	N/A	N/A	32/16/29.172N	89/41/12.84W
AA-005	N/A Misc Tanks	N/A	N/A	415	N/A	N/A	N/A	N/A	32/16/29.172N	89/41/12.84W
AA-006	N/A Tanks	N/A	N/A	415	N/A	N/A	N/A	N/A	32/16/29.172N	89/41/12.84W
AA-007	N/A-Loading	N/A	N/A	415	N/A	N/A	N/A	N/A	32/16/29.172N	89/41/12.84W

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**

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): Flare controls gas produced/emissions from 3 crude storage tanks, 1 produced water storage tank. Flare is designed in accordance with 40 CFR 60.18 for gas velocity and heat content of flared gas.
- 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: % Controlling the following pollutant(s):
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: 1200 Btu/scf
3. Design exit velocity: 80 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: Daily visual observation
6. Is the auto-ignitor system monitored? ☒ Yes ☐ No
If yes, please describe the monitoring: Electronic notification

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).	01/18/2018	03/03/2023 (est.)	N/A
AA-003 Fugitive Emissions	40 CFR 60, Subpart OOOOa	01/18/2018	03/03/2023 (est.)	N/A
AA-003 Fugitive Emissions	40 CFR 60, Subpart OOOOa	01/18/2018	01/18/2018	N/A
AA-001 Flare and facility wide	11 Miss. Admin. Code Pt. 2, R.1.4.B(2).	01/18/2018	01/18/2018	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-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	Written Plan development

**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 60.5397a(h)	VOC and Methane	Fugitive emission source repair or replacement requirements	Recordkeeping of repair/replacement
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-007 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.

FORM 5	MDEQ	MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY APPLICATION FOR AIR POLLUTION CONTROL PERMIT																									
Tank Summary			Section H																								
1. Emission Point Description																											
<i>Note: Sections 3-7 below do not have to be completed if all of the required information is provided elsewhere, such as in a report generated by EPA's TANKS software, and attached to the application.</i>																											
A. Emission Point Designation (Ref. No.): <u>TK 01</u>																											
B. Product(s) Stored: <u>Crude Oil</u>																											
C. Status: <input type="checkbox"/> Operating <input checked="" type="checkbox"/> Proposed <input type="checkbox"/> Under Construction																											
D. Date of construction, reconstruction, or most recent modification (for existing sources) or date of anticipated construction: <u>09/2017</u>																											
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F. Is an EPA TANKS report included for this tank in the application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No E&P Tanks software was used for W&B calculations. See attached report.																											

FORM 5**MDEQ****MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL
QUALITY APPLICATION FOR AIR POLLUTION CONTROL
PERMIT****Tank Summary****Section H****3. Horizontal Fixed Roof Tank**

- A. Shell Length: _____ feet
B. Shell Diameter: _____ feet
C. Working Volume: _____ gal
D. Maximum Throughput: _____ gal/yr
E. Is the tank heated? ☐ Yes ☐ No
F. Is the tank underground? ☐ Yes ☐ No
G. Shell Color/Shade:
☐ Aluminum/Specular ☐ Aluminum/Diffuse
☐ Gray/Light ☐ Gray/Medium ☐ Red/Primer
H. Shell Condition: ☐ Good ☐ Poor

4. Vertical Fixed Roof Tank

- A. Dimensions:
1. Shell Height: _____ 20 feet
2. Shell Diameter: _____ 12 feet
3. Maximum Liquid Height: _____ 19 feet
4. Average Liquid Height: _____ 10 feet
5. Working Volume: _____ 16,800 gal
6. Turnovers per year: _____ 261.7
7. Maximum throughput: _____ 4396644 gal/yr
8. Is the tank heated? ☐ Yes ☒ No
B. Shell Characteristics:
1. Shell Color/Shade:
☐ White/White ☐ Aluminum/Specular ☐ Aluminum/Diffuse
☒ Gray/Light ☐ Gray/Medium ☐ Red/Primer
2. Shell Condition: ☒ Good ☐ Poor
C. Roof Characteristics:
1. Roof Color/Shade:
☐ White/White ☐ Aluminum/Specular ☐ Aluminum/Diffuse
☒ Gray/Light ☐ Gray/Medium ☐ Red/Primer
2. Roof Condition: ☒ Good ☐ Poor
3. Type: ☐ Cone ☒ Dome
4. Height: _____ 0.1 feet

FORM 5	MDEQ	MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY APPLICATION FOR AIR POLLUTION CONTROL PERMIT
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Tank Summary

Section H

5. Internal Floating Roof Tank

A. Tank Characteristics:

1. Diameter: _____ feet
2. Tank Volume: _____ gal
3. Turnovers per year: _____
4. Maximum Throughput: _____ gal/yr
5. Number of Columns: _____
6. Self-Supporting Roof? ☐ Yes ☐ No
7. Effective Column Diameter:

☐ 9"x7" Built-up Column
☐ 8" Diameter Pipe
☐ Unknown
8. Internal Shell Condition:

☐ Light Rust
☐ Dense Rust
☐ Gunite Lining
9. External Shell Color/Shade:

☐ White/White

☐ Aluminum/Specular

☐ Aluminum/Diffuse

☐ Gray/Light

☐ Gray/Medium

☐ Red/Primer
10. External Shell Condition: ☐ Good ☐ Poor
11. Roof Color/Shade:

☐ White/White

☐ Aluminum/Specular

☐ Aluminum/Diffuse

☐ Gray/Light

☐ Gray/Medium

☐ Red/Primer
12. Roof Condition: ☐ Good ☐ Poor

B. Rim Seal System:

1. Primary Seal: ☐ Mechanical Shoe ☐ Liquid-mounted ☐ Vapor-mounted
2. Secondary Seal: ☐ Shoe-mounted ☐ Rim-mounted ☐ None

C. Deck Characteristics:

1. Deck Type: ☐ Bolted ☐ Welded
2. Deck Fitting Category: ☐ Typical ☐ Detail

6. External Floating Roof Tank

A. Tank Characteristics

1. Diameter: _____ feet
2. Tank Volume: _____ gal
3. Turnovers per year: _____
4. Maximum Throughput: _____ gal/yr
5. Internal Shell Condition:

☐ Light Rust
☐ Dense Rust
☐ Gunite Lining

FORM 5	MDEQ	MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY APPLICATION FOR AIR POLLUTION CONTROL PERMIT
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Tank Summary

Section H

6. External Floating Roof Tank (continued)

A. Tank Characteristics (continued):

6. Paint Color/Shade:

- | | | |
|--------------------------------------|--|---|
| <input type="checkbox"/> White/White | <input type="checkbox"/> Aluminum/Specular | <input type="checkbox"/> Aluminum/Diffuse |
| <input type="checkbox"/> Gray/Light | <input type="checkbox"/> Gray/Medium | <input type="checkbox"/> Red/Primer |

7. Paint Condition: ☐ Good ☐ Poor

B. Roof Characteristics

1. Roof Type: ☐ Pontoon ☐ Double Deck

2. Roof Fitting Category: ☐ Typical ☐ Detail

C. Tank Construction and Rim-Seal System:

1. Tank Construction: ☐ Welded ☐ Riveted

2. Primary Seal:

- | | | |
|--|---|--|
| <input type="checkbox"/> Mechanical Shoe | <input type="checkbox"/> Liquid-mounted | <input type="checkbox"/> Vapor-mounted |
|--|---|--|

3. Secondary Seal

- | | | | |
|-------------------------------|---------------------------------------|--------------------------------------|---|
| <input type="checkbox"/> None | <input type="checkbox"/> Shoe-mounted | <input type="checkbox"/> Rim-mounted | <input type="checkbox"/> Weather shield |
|-------------------------------|---------------------------------------|--------------------------------------|---|

7. Pollutant Emissions

A. Fixed Roof Emissions:

Pollutant ¹	Working Loss (tons/yr)	Breathing Loss (tons/yr)	Total Emissions (tons/yr)
VOC			70.58
Hexane			3.1734
Benzene			0.2790
Ethylbenzene			0.0169
Toluene			0.3889
Xylene			0.2029

B. Floating Roof Emissions:

Pollutant ¹	Rim Seal Loss (tons/yr)	Withdrawal Loss (tons/yr)	Deck Fitting Loss (tons/yr)	Deck Seam Loss (tons/yr)	Landing Loss ² (tons/yr)	Total Emissions (tons/yr)

1. All regulated air pollutants including hazardous air pollutants emitted from this source should be listed in accordance with the Permit Application Instructions. A list of regulated air pollutants and hazardous air pollutants is provided in the Application Instructions.

2. Landing losses should be determined according to the procedures in *Organic Liquid Storage Tanks* chapter of EPA's AP-42 emission factors. If the roof is not landed at least once/yr, enter "NA".

FORM 5	MDEQ	MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY APPLICATION FOR AIR POLLUTION CONTROL PERMIT																								
Tank Summary		Section H																								
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A. Emission Point Designation (Ref. No.): <u>TK-02, TK-03</u>																										
B. Product(s) Stored: <u>Crude Oil</u>																										
C. Status: <input type="checkbox"/> Operating <input checked="" type="checkbox"/> Proposed <input type="checkbox"/> Under Construction																										
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FORM 5**MDEQ****MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL
QUALITY APPLICATION FOR AIR POLLUTION CONTROL
PERMIT****Tank Summary****Section H****3. Horizontal Fixed Roof Tank**

- A. Shell Length: _____ feet
B. Shell Diameter: _____ feet
C. Working Volume: _____ gal
D. Maximum Throughput: _____ gal/yr
E. Is the tank heated? ☐ Yes ☐ No
F. Is the tank underground? ☐ Yes ☐ No
G. Shell Color/Shade:
☐ ☐ Aluminum/Specular ☐ Aluminum/Diffuse
☐ Gray/Light ☐ Gray/Medium ☐ Red/Primer
H. Shell Condition: ☐ Good ☐ Poor

4. Vertical Fixed Roof Tank

- A. Dimensions:
1. Shell Height: _____ 20 feet
2. Shell Diameter: _____ 12 feet
3. Maximum Liquid Height: _____ 19 feet
4. Average Liquid Height: _____ 10 feet
5. Working Volume: _____ 16,800 gal
6. Turnovers per year: _____ 261.7
7. Maximum throughput: _____ 4396644 gal/yr
8. Is the tank heated? ☐ Yes ☒ No
B. Shell Characteristics:
1. Shell Color/Shade:
☐ White/White ☐ Aluminum/Specular ☐ Aluminum/Diffuse
☒ Gray/Light ☐ Gray/Medium ☐ Red/Primer
2. Shell Condition: ☒ Good ☐ Poor
C. Roof Characteristics:
1. Roof Color/Shade:
☐ White/White ☐ Aluminum/Specular ☐ Aluminum/Diffuse
☒ Gray/Light ☐ Gray/Medium ☐ Red/Primer
2. Roof Condition: ☒ Good ☐ Poor
3. Type: ☐ Cone ☒ Dome
4. Height: _____ 0.1 feet

FORM 5**MDEQ****MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL
QUALITY APPLICATION FOR AIR POLLUTION CONTROL
PERMIT****Tank Summary****Section H****5. Internal Floating Roof Tank****A. Tank Characteristics:**

1. Diameter: _____ feet
2. Tank Volume: _____ gal
3. Turnovers per year: _____
4. Maximum Throughput: _____ gal/yr
5. Number of Columns: _____
6. Self-Supporting Roof? ☐ Yes ☐ No
7. Effective Column Diameter:
☐ 9"x7" Built-up Column ☐ 8" Diameter Pipe ☐ Unknown
8. Internal Shell Condition:
☐ Light Rust ☐ Dense Rust ☐ Gunite Lining
9. External Shell Color/Shade:
☐ White/White ☐ Aluminum/Specular ☐ Aluminum/Diffuse
☐ Gray/Light ☐ Gray/Medium ☐ Red/Primer
10. External Shell Condition: ☐ Good ☐ Poor
11. Roof Color/Shade:
☐ White/White ☐ Aluminum/Specular ☐ Aluminum/Diffuse
☐ Gray/Light ☐ Gray/Medium ☐ Red/Primer
12. Roof Condition: ☐ Good ☐ Poor

B. Rim Seal System:

1. Primary Seal: ☐ Mechanical Shoe ☐ Liquid-mounted ☐ Vapor-mounted
2. Secondary Seal: ☐ Shoe-mounted ☐ Rim-mounted ☐ None

C. Deck Characteristics:

1. Deck Type: ☐ Bolted ☐ Welded
2. Deck Fitting Category: ☐ Typical ☐ Detail

6. External Floating Roof Tank**A. Tank Characteristics**

1. Diameter: _____ feet
2. Tank Volume: _____ gal
3. Turnovers per year: _____
4. Maximum Throughput: _____ gal/yr
5. Internal Shell Condition:
☐ Light Rust ☐ Dense Rust ☐ Gunite Lining

FORM 5	MDEQ	MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY APPLICATION FOR AIR POLLUTION CONTROL PERMIT
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Tank Summary

Section H

6. External Floating Roof Tank (continued)

A. Tank Characteristics (continued):

6. Paint Color/Shade:

- | | | |
|--------------------------------------|--|---|
| <input type="checkbox"/> White/White | <input type="checkbox"/> Aluminum/Specular | <input type="checkbox"/> Aluminum/Diffuse |
| <input type="checkbox"/> Gray/Light | <input type="checkbox"/> Gray/Medium | <input type="checkbox"/> Red/Primer |

7. Paint Condition: ☐ Good ☐ Poor

B. Roof Characteristics

1. Roof Type: ☐ Pontoon ☐ Double Deck

2. Roof Fitting Category: ☐ Typical ☐ Detail

C. Tank Construction and Rim-Seal System:

1. Tank Construction: ☐ Welded ☐ Riveted

2. Primary Seal:

- | | | |
|--|---|--|
| <input type="checkbox"/> Mechanical Shoe | <input type="checkbox"/> Liquid-mounted | <input type="checkbox"/> Vapor-mounted |
|--|---|--|

3. Secondary Seal

- | | | | |
|-------------------------------|---------------------------------------|--------------------------------------|---|
| <input type="checkbox"/> None | <input type="checkbox"/> Shoe-mounted | <input type="checkbox"/> Rim-mounted | <input type="checkbox"/> Weather shield |
|-------------------------------|---------------------------------------|--------------------------------------|---|

7. Pollutant Emissions

A. Fixed Roof Emissions:

Pollutant ¹	Working Loss (tons/yr)	Breathing Loss (tons/yr)	Total Emissions (tons/yr)
VOC	All tank emissions included in TK-01		
Hexane			
Benzene			
Ethylbenzene			
Toluene			
Xylene			

B. Floating Roof Emissions:

Pollutant ¹	Rim Seal Loss (tons/yr)	Withdrawal Loss (tons/yr)	Deck Fitting Loss (tons/yr)	Deck Seam Loss (tons/yr)	Landing Loss ² (tons/yr)	Total Emissions (tons/yr)

1. All regulated air pollutants including hazardous air pollutants emitted from this source should be listed in accordance with the Permit Application Instructions. A list of regulated air pollutants and hazardous air pollutants is provided in the Application Instructions.

2. Landing losses should be determined according to the procedures in *Organic Liquid Storage Tanks* chapter of EPA's AP-42 emission factors. If the roof is not landed at least once/yr, enter "NA".

FORM 5	MDEQ	MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY APPLICATION FOR AIR POLLUTION CONTROL PERMIT																								
Tank Summary		Section H																								
1. Emission Point Description																										
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A. Emission Point Designation (Ref. No.): <u>TK-04</u>																										
B. Product(s) Stored: <u>Produced Water</u>																										
C. Status: <input type="checkbox"/> Operating <input checked="" type="checkbox"/> Proposed <input type="checkbox"/> Under Construction																										
D. Date of construction, reconstruction, or most recent modification (for existing sources) or date of anticipated construction: <u>09/2017</u>																										
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6. Molecular weight of product vapor at storage temp.	<u>46.63</u>	lb/lbmol																								
B. Tank Orientation: <input checked="" type="checkbox"/> Vertical <input type="checkbox"/> Horizontal																										
C. Type of Tank: <table style="width: 100%; border-collapse: collapse;"> <tr> <td><input checked="" type="checkbox"/> Fixed Roof</td> <td><input type="checkbox"/> External Floating Roof</td> <td><input type="checkbox"/> Internal Floating Roof</td> </tr> <tr> <td><input type="checkbox"/> Pressure</td> <td><input type="checkbox"/> Variable Vapor Space</td> <td><input type="checkbox"/> Other: _____</td> </tr> </table>			<input checked="" type="checkbox"/> Fixed Roof	<input type="checkbox"/> External Floating Roof	<input type="checkbox"/> Internal Floating Roof	<input type="checkbox"/> Pressure	<input type="checkbox"/> Variable Vapor Space	<input type="checkbox"/> Other: _____																		
<input checked="" type="checkbox"/> Fixed Roof	<input type="checkbox"/> External Floating Roof	<input type="checkbox"/> Internal Floating Roof																								
<input type="checkbox"/> Pressure	<input type="checkbox"/> Variable Vapor Space	<input type="checkbox"/> Other: _____																								
D. Is the tank equipped with a Vapor Recovery System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, describe below and include the efficiency.</i> _____																										
E. Closest City: <table style="width: 100%; border-collapse: collapse;"> <tr> <td><input checked="" type="checkbox"/> Jackson, MS</td> <td><input type="checkbox"/> Meridian, MS</td> <td><input type="checkbox"/> Tupelo, MS</td> <td><input type="checkbox"/> Mobile, AL</td> </tr> <tr> <td><input type="checkbox"/> New Orleans, LA</td> <td><input type="checkbox"/> Memphis, TN</td> <td><input type="checkbox"/> Baton Rouge, LA</td> <td></td> </tr> </table>			<input checked="" type="checkbox"/> Jackson, MS	<input type="checkbox"/> Meridian, MS	<input type="checkbox"/> Tupelo, MS	<input type="checkbox"/> Mobile, AL	<input type="checkbox"/> New Orleans, LA	<input type="checkbox"/> Memphis, TN	<input type="checkbox"/> Baton Rouge, LA																	
<input checked="" type="checkbox"/> Jackson, MS	<input type="checkbox"/> Meridian, MS	<input type="checkbox"/> Tupelo, MS	<input type="checkbox"/> Mobile, AL																							
<input type="checkbox"/> New Orleans, LA	<input type="checkbox"/> Memphis, TN	<input type="checkbox"/> Baton Rouge, LA																								
F. Is an EPA TANKS report included for this tank in the application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																										

FORM 5	MDEQ	MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY APPLICATION FOR AIR POLLUTION CONTROL PERMIT
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Tank Summary
Section H
3. Horizontal Fixed Roof Tank

- A. Shell Length: _____ feet
- B. Shell Diameter: _____ feet
- C. Working Volume: _____ gal
- D. Maximum Throughput: _____ gal/yr
- E. Is the tank heated? ☐ Yes ☐ No
- F. Is the tank underground? ☐ Yes ☐ No
- G. Shell Color/Shade:
- ☐ ☐ Aluminum/Specular ☐ Aluminum/Diffuse
☐ Gray/Light ☐ Gray/Medium ☐ Red/Primer
- H. Shell Condition: ☐ Good ☐ Poor

4. Vertical Fixed Roof Tank

- A. Dimensions:
1. Shell Height: _____ 20 _____ feet
 2. Shell Diameter: _____ 12 _____ feet
 3. Maximum Liquid Height: _____ feet
 4. Average Liquid Height: _____ 10 _____ feet
 5. Working Volume: _____ 16,800 _____ gal
 6. Turnovers per year: _____ 261.7 _____
 7. Maximum throughput: _____ 4396644 _____ gal/yr
 8. Is the tank heated? ☐ Yes ☒ No
- B. Shell Characteristics:
1. Shell Color/Shade:

☐ White/White
☐ Aluminum/Specular
☐ Aluminum/Diffuse

☒ Gray/Light
☐ Gray/Medium
☐ Red/Primer
 2. Shell Condition: ☒ Good ☐ Poor
- C. Roof Characteristics:
1. Roof Color/Shade:

☐ White/White
☐ Aluminum/Specular
☐ Aluminum/Diffuse

☒ Gray/Light
☐ Gray/Medium
☐ Red/Primer
 2. Roof Condition: ☒ Good ☐ Poor
 3. Type: ☐ Cone ☒ Dome
 4. Height: _____ 0.1 _____ feet

FORM 5**MDEQ****MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL
QUALITY APPLICATION FOR AIR POLLUTION CONTROL
PERMIT****Tank Summary****Section H****5. Internal Floating Roof Tank****A. Tank Characteristics:**

1. Diameter: _____ feet
2. Tank Volume: _____ gal
3. Turnovers per year: _____
4. Maximum Throughput: _____ gal/yr
5. Number of Columns: _____
6. Self-Supporting Roof? ☐ Yes ☐ No
7. Effective Column Diameter:
☐ 9"x7" Built-up Column ☐ 8" Diameter Pipe ☐ Unknown
8. Internal Shell Condition:
☐ Light Rust ☐ Dense Rust ☐ Gunite Lining
9. External Shell Color/Shade:
☐ White/White ☐ Aluminum/Specular ☐ Aluminum/Diffuse
☐ Gray/Light ☐ Gray/Medium ☐ Red/Primer
10. External Shell Condition: ☐ Good ☐ Poor
11. Roof Color/Shade:
☐ White/White ☐ Aluminum/Specular ☐ Aluminum/Diffuse
☐ Gray/Light ☐ Gray/Medium ☐ Red/Primer
12. Roof Condition: ☐ Good ☐ Poor

B. Rim Seal System:

1. Primary Seal: ☐ Mechanical Shoe ☐ Liquid-mounted ☐ Vapor-mounted
2. Secondary Seal: ☐ Shoe-mounted ☐ Rim-mounted ☐ None

C. Deck Characteristics:

1. Deck Type: ☐ Bolted ☐ Welded
2. Deck Fitting Category: ☐ Typical ☐ Detail

6. External Floating Roof Tank**A. Tank Characteristics**

1. Diameter: _____ feet
2. Tank Volume: _____ gal
3. Turnovers per year: _____
4. Maximum Throughput: _____ gal/yr
5. Internal Shell Condition:
☐ Light Rust ☐ Dense Rust ☐ Gunite Lining

FORM 5	MDEQ	MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY APPLICATION FOR AIR POLLUTION CONTROL PERMIT
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Tank Summary

Section H

6. External Floating Roof Tank (continued)

A. Tank Characteristics (continued):

6. Paint Color/Shade:

- | | | |
|--------------------------------------|--|---|
| <input type="checkbox"/> White/White | <input type="checkbox"/> Aluminum/Specular | <input type="checkbox"/> Aluminum/Diffuse |
| <input type="checkbox"/> Gray/Light | <input type="checkbox"/> Gray/Medium | <input type="checkbox"/> Red/Primer |

7. Paint Condition:

- ☐ Good ☐ Poor

B. Roof Characteristics

1. Roof Type:

- ☐ Pontoon ☐ Double Deck

2. Roof Fitting Category:

- ☐ Typical ☐ Detail

C. Tank Construction and Rim-Seal System:

1. Tank Construction:

- ☐ Welded ☐ Riveted

2. Primary Seal:

- ☐ Mechanical Shoe ☐ Liquid-mounted ☐ Vapor-mounted

3. Secondary Seal

- ☐ None ☐ Shoe-mounted ☐ Rim-mounted ☐ Weather shield

7. Pollutant Emissions

A. Fixed Roof Emissions:

Pollutant ¹	Working Loss (tons/yr)	Breathing Loss (tons/yr)	Total Emissions (tons/yr)
VOC			0.7058
Hexane			0.0332
Benzene			0.0028
Ethylbenzene			0.0002
Toluene			0.0039
Xylene			0.0020

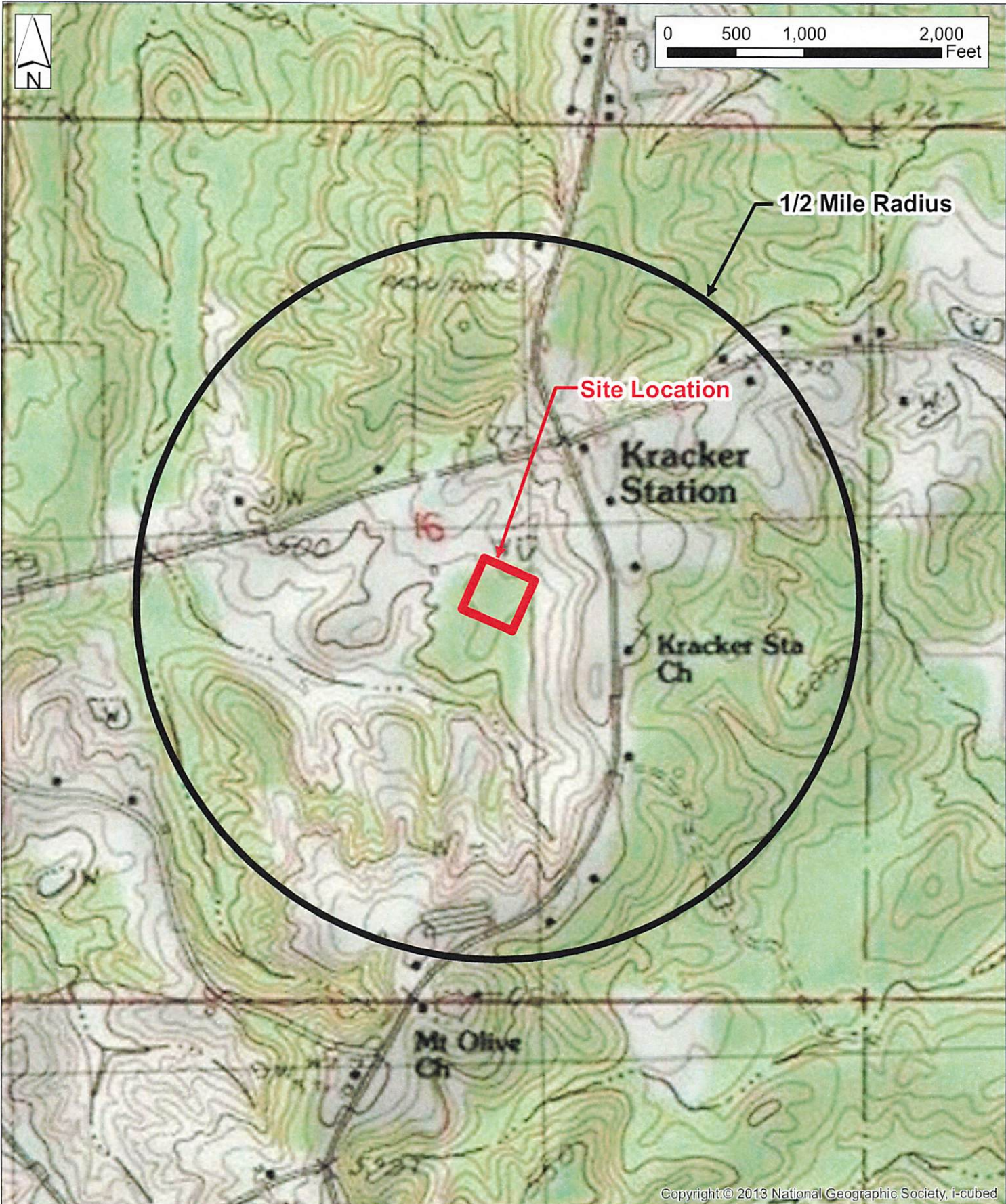
B. Floating Roof Emissions:

Pollutant ¹	Rim Seal Loss (tons/yr)	Withdrawal Loss (tons/yr)	Deck Fitting Loss (tons/yr)	Deck Seam Loss (tons/yr)	Landing Loss ² (tons/yr)	Total Emissions (tons/yr)


1. All regulated air pollutants including hazardous air pollutants emitted from this source should be listed in accordance with the Permit Application Instructions. A list of regulated air pollutants and hazardous air pollutants is provided in the Application Instructions.

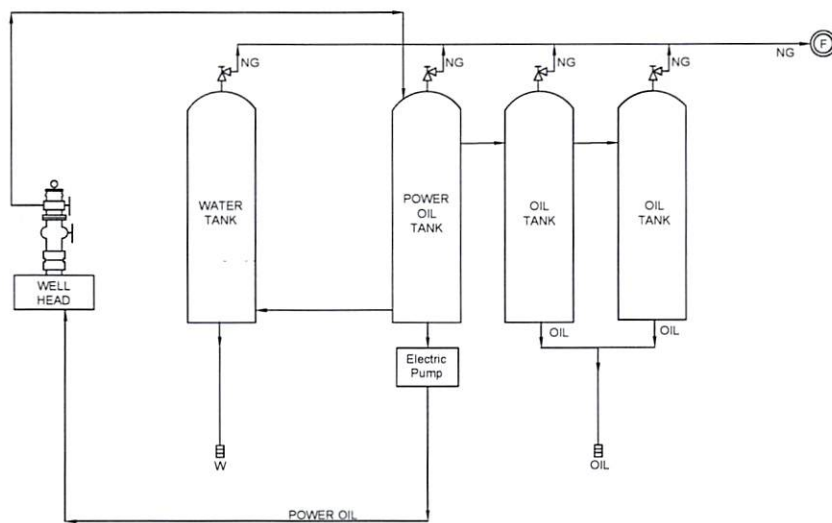
2. Landing losses should be determined according to the procedures in *Organic Liquid Storage Tanks* chapter of EPA's AP-42 emission factors. If the roof is not landed at least once/yr, enter "NA".

FIGURES





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 FC&E Engineering, LLC <small>Water • Soil • Air • Compliance</small>	<p>Topo Map</p>	Figure Number:	1
		Figure Name:	Site Location Map
		Purpose:	
		Drawn By:	WWilliams
		Date Drawn:	8/21/2017



LEGEND

- O OIL
- W WATER
- NG NATURAL GAS
-  RELIEF VALVE
-  LOADING COUPLER
-  FLARE

PRUET PRODUCTION COMPANY

PROCESS FLOW DIAGRAM
BOARD OF EDUCATION 16-10 NO. 1
SCOTT COUNTY, MISSISSIPPI

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



Drawn By: CC - Reviewed By: TC - Date Drawn: 12/26/2022

ATTACHMENT A

Calculations for Pruet Board of Education 16-10 No. 1 Tank Battery

Pruett Board of Education No. 1 Tank Battery
Oil General Permit Coverage Application

Site Information for Calculations

Site Name: Board of Education 16-10 No. 1 Tank Battery

Potential Crude Production	24,000 bbl/yr	
Potential Gas production	21,900 mcf/yr	
Potential Produced Water	1,000 bbl/yr	
Initial Crude Production	66 bbl/day	(expected maximum daily production)
Initial Gas Production	60 mcf/day	(expected maximum daily production)
Initial Water Production	1 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	26.3 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	0.263 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-003	Fugitive emissions- equipment leaks	-	-	8760
AA-005	Misc. Chemical Tanks	-	-	8760
AA-006	Oil and Water Storage Tanks	-	-	8760
AA-007	Truck Loading	16,000	gal/hr	As needed

Note: Storage tanks 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	0.03	0.03	0.03	4.81	1.06	4.84	41.14	0.2415	1907.95	5.73	0.00	2052.02
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-003	Fugitive emissions- equipment leaks	-	-	-	0.33	-	-	-	0.0228	0.02	0.25	0.00	6.23
AA-005	Misc. Chemical Tanks (4)	-	-	-	0.02	-	-	-	0.0190	-	-	-	-
AA-006	Oil and Water Tanks (4)	Gas routed to flare											
AA-007	Truck Loading				3.67				0.1644	0.01	0.05	0	1.37
Totals		0.03	0.03	0.03	8.84	1.08	4.86	41.14	0.4480	1933.58	6.03	0.00	2085.24

Notes:

Storage tanks emissions are included in flare emissions.

Pruett Board of Education No. 1 Tank Battery
Oil General Permit Coverage Application

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	-	-	-	240.62	-	-	-	12.07	94.82	69.49	0.00	1832.17
AA-003	Fugitive emissions- equipment leaks	-	-	-	0.33	-	-	-	0.02	0.02	0.25	0.00	6.23
AA-005	Misc. Chemical Tanks	-	-	-	0.02	-	-	-	0.02	-	-	-	-
AA-006	Oil and Water Storage Tanks	Gas routed to flare											
AA-007	Truck Loading				3.67				0.1644	0.01	0.05	0	1.37
Totals		0.00	0.00	0.00	244.64	0.00	0.00	0.00	12.28	94.85	69.80	0.00	1839.77

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	0.01	0.01	0.01	1.10	0.24	1.11	9.39	0.06	435.61	1.31	0.00	468.50
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-003	Fugitive emissions- equipment leaks	-	-	-	0.08	-	-	-	0.01	0.00	0.06	0.00	1.42
AA-005	Misc. Chemical Tanks	-	-	-	0.00	-	-	-	0.00	-	-	-	0.00
AA-006	Oil and Water Storage Tanks	GAS ROUTED TO FLARE											
AA-007	Truck Loading	-	-	-	117.72	-	-	-	5.27	0.00	0.01	0	0.31
Totals		0.01	0.01	0.01	118.90	0.25	1.11	9.393	5.33	441.46	1.38	0.00	476.08

Notes:

Storage tanks emissions are included in flare emissions.

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

4.38 tpy = 1 PPH

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%	2.72600%
CO2	None	1.621%	12.544%
N2	None	11.721%	37.729%
Methane	None	61.556%	9.104%
Ethane	None	7.925%	11.705%
Propane	VOC	6.948%	5.338%
Isobutane	VOC	2.404%	8.518%
Butane	VOC	3.836%	3.592%
Isopentane	VOC	1.303%	3.062%
Pentane	VOC	1.111%	1.640%
Hexane	VOC	0.500%	1.042%
n-Hexane	VOC and HAP	0.312%	2.619%
Heptanes+	VOC	0.654%	0.109%
Benzene	VOC and HAP	0.037%	0.121%
Toluene	VOC and HAP	0.034%	0.020%
e-Benzene	VOC and HAP	0.005%	0.131%
Xylenes	VOC and HAP	0.033%	0.020%
Total VOC		17.177%	28.918%
Total HAP		0.421%	2.911%

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	0.164355
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 ,	631,463	SCF/yr	72	SCF/hr
Total flash gas ,	37.52	tpy	8.56	lb/hr
Total tank W&B loss	31,453	SCF/yr	4	SCF/hr
Total tank W &B losses	2.09	tpy	0.48	lb/hr
Total tank emissions	39.60	tpy	9.04	lb/hr
Tank emissions to flare	39.60	tpy	9.04	lb/hr
	263.00			
	0.02	0.01	0.0000	

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	=	37.52 tpy
Flow to flare of tank W&B emissions		2.09 tpy
flow to flare from truck loading	=	0.00 tpy
Total process gas to flare	=	39.60 tpy
Produced gas to flare	=	755.39 tpy
	=	21900.00 mcf/yr

Produced gas combustion heat	=	29630.70 MMBtu/yr
process gas combustion heat	=	1610.70 MMBtu/yr
flare gas combustion heat, total	=	31241.40 MMBtu/yr

	<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>
Calculation	NOx	0.068	0.243	1.062	n-hexane	0.0422	0.1848
	CO	0.31	1.106	4.842	benzene	0.0051	0.0225
	PM	0.00186	0.000	0.029	e-benzene	0.0046	0.0200
	VOC	mass balance	1.099	4.812	toluene	0.0018	0.0080
	SO ₂	mass balance	9.393	41.143	xylene	0.0014	0.0061
	PM10/PM2.5	0.00745	0.027	0.116	Total HAPs	0.0551	0.2415

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.

Tank 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:

		<u>Potential</u>
Flow to flare of tank flash gas	=	8.56 lbs/hr
Flow to flare of tank W&B emissions		0.48 lbs/hr
flow to flare from truck loading	=	0.00 lbs/hr
Total process gas to flare	=	9.04 lbs/hr
Produced gas to flare	=	172.46 lbs/hr
	=	2.50 mcf/hr
Produced gas combustion heat	=	3.38 MMBtu/hr
process gas combustion heat	=	0.18 MMBtu/hr
flare gas combustion heat, total	=	3.57 MMBtu/hr

			<u>Maximum Hourly Emissions</u>		<u>Potential Emissions</u>
	<u>Pollutant</u>	<u>Emission factor, lbs/MMBtu</u>	<u>lb/hr</u>	<u>Pollutant</u>	<u>lb/hr</u>
Calculation	NOx	0.068	0.243	n-hexane	0.0422
	CO	0.37	1.320	benzene	0.0051
	PM	0.00745	0.027	e-benzene	0.0046
	VOC	mass balance	1.099	toluene	0.0018
	SO ₂	mass balance	9.393	xylenes	0.0014
				Total HAPs	0.0551

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	=	37.52 tpy
Flow to flare from tank W&B emissions	=	2.09
flow to flare from truck loading	=	0.00 tpy
Produced gas to flare from power oil tank	=	755.39 tpy

		<u>Potential Emissions</u>	
<u>Pollutant</u>	<u>Emission factor, lbs/MMBtu</u>	<u>lb/hr</u>	<u>tpy</u>
VOC	mass balance	54.937	240.62
H2S	mass balance	4.995	21.88
n-hexane	mass balance	2.109	9.24
benzene	mass balance	0.257	1.13
e-benzene	mass balance	0.228	1.00
toluene	mass balance	0.091	0.40
Calculation xylenes	mass balance	0.070	0.31
total HAPs	mass balance	2.756	12.07
methane	mass balance	15.866	69.49
CO2	mass balance	21.649	94.82

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

Calculation of Flare GHG Emissions

Process gas to flare, mmcf/yr 0.65
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	CO ₂ (from combustion)		CO ₂ input	CH ₄ , uncombusted		N ₂ O	CO ₂ e
	cubic ft.	tpy	tpy	cubic ft.	tpy ¹	tpy ¹	tpy
1	7.39E+04	4.28E+00 *	1.37E-01	1.51E+03	3.19E-02	8.87E-05	9.60E-01
2	8.30E+04	4.80E+00					4.28E+00
3	3.79E+05	2.19E+01					4.80E+00
4	8.39E+05	4.85E+01					2.19E+01
5+	8.54E+05	4.94E+01					4.85E+01
Total	2.23E+06	1.29E+02	1.37E-01	1.51E+03	3.19E-02	8.87E-05	4.94E+01
							1.30E+02

PRODUCED GAS

produced gas to flare, mmcf/yr 21.90

carbon atoms	CO ₂ (from combustion)		CO ₂ input	CH ₄ , uncombusted		N ₂ O	CO ₂ e
	cubic ft.	tpy	tpy	cubic ft.	tpy	tpy	tpy
1	1.32E+07	7.64E+02	2.05E+01	2.70E+05	5.69E+00	2.98E-03	1.64E+02
2	3.40E+06	1.97E+02					7.64E+02
3	4.47E+06	2.59E+02					1.97E+02
4	5.36E+06	3.10E+02					2.59E+02
5+	3.95E+06	2.28E+02					3.10E+02
Total	3.04E+07	1.76E+03	2.05E+01	2.70E+05	5.69E+00	2.98E-03	2.28E+02
							1.92E+03

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:	5											
gas/vapor	24	0.027	0.044702609	0.29	0.013	0.06	2.91%	0.001	0.006	0.005326	0.073798	1.85
light oil ²	13	0.05	0.04484058	0.54	0.024	0.11	5.34%	0.002	0.010	0.005342	0.067296	1.69
heavy oil	0	0.0005	0	0.29	0.000	0.00	2.91%	0.000	0.000	0	0	0.00
Pumps:			0	0.29			2.91%	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	0.29			2.91%	0.000	0.000	0	0	0.00
Flanges:	10		0	0.29			2.91%	0.000	0.000	0	0	0.00
gas/vapor		0	0	0.29	0.000	0.00	2.91%	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	0.001134	0.014287	0.36
heavy oil	0	0.0009	0	0.29	0.000	0.00	2.91%	0.000	0.000	0	0	0.00
Relief Valve:			0	0.29			2.91%	0.000	0.000	0	0	0.00
gas/vapor	4	0.04	0.011037681	0.29	0.003	0.01	2.91%	0.000	0.001	0.001315	0.016565	0.42
Connectors:	4		0	0.29			2.91%	0.000	0.000	0	0	0.00
gas/vapor	67	0.003	0.013866087	0.29	0.004	0.02	2.91%	0.000	0.002	0.001652	0.02081	0.52
light oil	34	0.007	0.016418551	0.73	0.012	0.05	1.66%	0.000	0.001	0.001956	0.024641	0.62
heavy oil	0	0.0003	0	0.29	0.000	0.03	2.91%	0.000	0.000	0	0	0.00
Other	1	0.3	0.020695652	0.29	0.006	0.03	1.66%	0.000	0.002	0.002466	0.03106	0.78
Totals					0.069	0.330		0.005	0.023	0.019	0.248	6.231

Notes:

- Emission factors and equipment counts taken from 40 CFR 98, subpart W.
- Light oil is defined as having API gravity greater than or equal to 20 degrees API.
- 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	0.00186	0.00814
benzene	0.00022	0.00095
ethyl benzene	0.00023	0.00102
toluene	0.00004	0.00016
xylene	0.00004	0.00016

Equipment	Count	Valves	Flanges	Fittings	prv	Other
wellhead	1	5	10	4	0	1
heater treater	0	0	0	0	0	0
header	0	0	0	0	0	0
separator	0	0	0	0	0	0
meters/piping	0	0	0	0	0	0
compressor	0	0	0	0	4	0
dehydrator	0	0	0	0	0	0
total		5	10	4	4	1

Truck Loading Emissions Calculations 30-Day Average production

Basis: 30 day average production rates

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

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	1,008	16,000	7.96	127.30	4.01

PRODUCED WATER

Calculation

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	42	16,000	0.08	1.27	0.00

HAPs	tons/yr
Benzene	0.017624
Toluene	0.01745
e-Benzene	0.000673
Xylenes	0.009191
n-hexane	0.119417
	0.164355

Truck Loading Emissions Calculations, Maximum lbs/hr

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

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/hr)	(gal/hr)	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	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

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

ATTACHMENT B:
BACKUP DOCUMENTATION

```

*****
*      Project Setup Information      *
*****
Project File       : Untitled.Ept
Flowsheet Selection : Oil Tank with Separator
Calculation Method  : RVP Distillation
Control Efficiency  : 100.0%
Known Separator Stream : Geographical Region
Geographical Region  : All Regions in US
Entering Air Composition : No

Filed Name       : Wildcat
Well Name        : BOE 16-10
Date             : 2017.08.17

```

```

*****
*      Data Input      *
*****
Separator Pressure : 24.00[psig]
Separator Temperature : 114.00[F]
Ambient Pressure : 14.70[psia]
Ambient Temperature : 114.00[F]
C10+ SG : 0.8700
C10+ MW : 274.00

```

```

-- Low Pressure Oil -----
No.   Component      mol %
1     H2S             0.0700
2     O2              0.0000
3     CO2             0.1700
4     N2              0.0000
5     C1              0.6200
6     C2              0.5200
7     C3              1.6800
8     i-C4            0.9900
9     n-C4            3.1200
10    i-C5            2.4500
11    n-C5            3.4200
12    C6              4.4300
13    C7              8.8900
14    C8              18.5800
15    C9              8.7200
16    C10+            36.2600
17    Benzene         0.5300
18    Toluene         1.9700
19    E-Benzene       0.1900
20    Xylenes         2.5500
21    n-C6            4.8400
22    224Trimethylp   0.0000

```

```

-- Sales Oil -----
Production Rate : 100[bbl/day]
Days of Annual Operation : 365 [days/year]
API Gravity : 46.0
Reid Vapor Pressure : 5.00[psia]

```

```

*****
*      Calculation Results      *
*****

-- Emission Summary -----
Item      Uncontrolled      Uncontrolled
          [ton/yr]          [lb/hr]

Page 1----- E&P TANK
Total HAPs      3.070      0.701
Total HC        58.328      13.317
VOCs, C2+      55.296      12.625

```

VOCs, C3+ 50.597 11.552

Uncontrolled Recovery Info.

Vapor	2.6300	[MSCFD]
HC Vapor	2.4800	[MSCFD]
GOR	26.30	[SCF/bbl]

-- Emission Composition -----

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
1	H2S	0.682	0.156
2	O2	0.000	0.000
3	CO2	2.278	0.520
4	N2	0.000	0.000
5	C1	3.032	0.692
6	C2	4.699	1.073
7	C3	14.401	3.288
8	i-C4	4.854	1.108
9	n-C4	11.178	2.552
10	i-C5	4.658	1.063
11	n-C5	5.041	1.151
12	C6	2.643	0.603
13	C7	2.325	0.531
14	C8	2.011	0.459
15	C9	0.420	0.096
16	C10+	0.000	0.000
17	Benzene	0.210	0.048
18	Toluene	0.298	0.068
19	E-Benzene	0.012	0.003
20	Xylenes	0.147	0.034
21	n-C6	2.400	0.548
22	224Trimethylp	0.000	0.000
	Total	61.289	13.993

-- Stream Data -----

No. Component	MW	LP Oil	Flash Oil	Sale Oil	Flash Gas	W&S Gas	Total
Emissions		mol %	mol %	mol %	mol %	mol %	mol %
1	H2S	34.80	0.0700	0.0404	0.0045	1.3134	1.5818
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.1700	0.0565	0.0002	4.9447	4.0881
4	N2	28.01	0.0000	0.0000	0.0000	0.0000	0.0000
5	C1	16.04	0.6200	0.1006	0.0000	22.4727	14.9261
6	C2	30.07	0.5200	0.2475	0.0077	11.9841	12.7960
7	C3	44.10	1.6800	1.2461	0.6349	19.9346	33.2195
8	i-C4	58.12	0.9900	0.8715	0.7470	5.9772	7.3806
9	n-C4	58.12	3.1200	2.8556	2.5970	14.2431	16.3878
10	i-C5	72.15	2.4500	2.3899	2.3352	4.9773	5.2541
11	n-C5	72.15	3.4200	3.3727	3.3291	5.4098	5.6562
12	C6	86.16	4.4300	4.4770	4.5143	2.4532	2.5253
13	C7	100.20	8.8900	9.0569	9.1932	1.8698	1.9231
14	C8	114.23	18.5800	18.9881	19.3232	1.4110	1.4564
15	C9	128.28	8.7200	8.9211	9.0862	0.2595	0.2825
16	C10+	166.00	36.2600	37.1218	37.8314	0.0000	0.0000
17	Benzene	78.11	0.5300	0.5376	0.5438	0.2092	0.2153
18	Toluene	92.13	1.9700	2.0108	2.0443	0.2517	0.2595
19	E-Benzene	106.17	0.1900	0.1943	0.1978	0.0090	0.0093
20	Xylenes	106.17	2.5500	2.6081	2.6558	0.1075	0.1114
21	n-C6	86.18	4.8400	4.9034	4.9544	2.1720	2.2349
22	224Trimethylp	114.24	0.0000	0.0000	0.0000	0.0000	0.0000
	MW		160.07	162.79	164.91	46.02	51.43
	Stream Mole Ratio		1.0000	0.9768	0.9585	0.0232	0.0183
	Heating Value	[BTU/SCF]				2465.94	2796.84
	Gas Gravity	[Gas/Air]				1.59	1.78
	Bubble Pt. @ 100F	[psia]	34.17	12.94	5.77		1.67
Page 2							
	RVP @ 100F	[psia]	11.37	7.35	5.02		
	Spec. Gravity @ 100F		0.732	0.733	0.734		

E&P TANK

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

Identification

User Identification: Anti-Foam Tank
City: Morton
State: Mississippi
Company: Pruet Production Co.
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
Morton, 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 Morton, 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: Morton
State: Mississippi
Company: Pruet Production Co.
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
Morton, 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
Morton, 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: Morton
State: Mississippi
Company: Pruet production Co.
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
Morton, 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
Morton, 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: Morton
State: Mississippi
Company: Pruet Production Co.
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
Morton, 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
Morton, Mississippi

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

FESCO, Ltd.
1100 Fesco Ave. - Alice, Texas 78332

For: Pruet Production Co.
 217 W. Capital Street
 Jackson, Mississippi

Sample: Board of Education 16-10 No. 1
 First Stage Separator Gas
 Sampled @ 70 psig & 87 °F

Date Sampled: 08/02/17

Job Number: 73038.001

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Hydrogen Sulfide*	< 0.001	
Nitrogen	9.232	
Carbon Dioxide	2.268	
Methane	58.662	
Ethane	11.461	3.079
Propane	9.860	2.729
Isobutane	2.658	0.874
n-Butane	3.610	1.143
2-2 Dimethylpropane	0.000	0.000
Isopentane	0.884	0.325
n-Pentane	0.686	0.250
Hexanes	0.435	0.180
Heptanes Plus	<u>0.244</u>	<u>0.102</u>
Totals	100.000	8.682

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity ----- 3.384 (Air=1)
 Molecular Weight ----- 97.54
 Gross Heating Value ----- 5128 BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity ----- 0.908 (Air=1)
 Compressibility (Z) ----- 0.9951
 Molecular Weight ----- 26.18
 Gross Heating Value
 Dry Basis ----- 1353 BTU/CF
 Saturated Basis ----- 1331 BTU/CF

*Hydrogen Sulfide tested on location by: Stain Tube Method (GPA 2377)
 <0.013 Gr/100 CF, <0.2 PPMV or <0.001 Mol %

Base Conditions: 14.730 PSI & 60 Deg F

Sampled By: (16)
 Analyst: MR
 Processor: CRP
 Cylinder ID: G-4061P

Certified: FESCO, Ltd. - Alice, Texas

 David Dannhaus 361-661-7015

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286
TOTAL REPORT

COMPONENT	MOL %	GPM	WT %
Hydrogen Sulfide*	< 0.001		< 0.001
Nitrogen	9.232		9.879
Carbon Dioxide	2.268		3.813
Methane	58.662		35.950
Ethane	11.461	3.079	13.165
Propane	9.860	2.729	16.609
Isobutane	2.658	0.874	5.901
n-Butane	3.610	1.143	8.015
2,2 Dimethylpropane	0.000	0.000	0.000
Isopentane	0.884	0.325	2.436
n-Pentane	0.686	0.250	1.891
2,2 Dimethylbutane	0.017	0.007	0.056
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.042	0.017	0.138
2 Methylpentane	0.140	0.058	0.461
3 Methylpentane	0.076	0.031	0.250
n-Hexane	0.160	0.066	0.527
Methylcyclopentane	0.025	0.009	0.080
Benzene	0.017	0.005	0.051
Cyclohexane	0.021	0.007	0.067
2-Methylhexane	0.023	0.011	0.088
3-Methylhexane	0.020	0.009	0.077
2,2,4 Trimethylpentane	0.000	0.000	0.000
Other C7's	0.029	0.013	0.110
n-Heptane	0.034	0.016	0.130
Methylcyclohexane	0.019	0.008	0.071
Toluene	0.011	0.004	0.039
Other C8's	0.022	0.010	0.093
n-Octane	0.008	0.004	0.035
Ethylbenzene	0.001	0.000	0.004
M & P Xylenes	0.004	0.002	0.016
O-Xylene	0.001	0.000	0.004
Other C9's	0.006	0.003	0.029
n-Nonane	0.002	0.001	0.010
Other C10's	0.001	0.001	0.005
n-Decane	0.000	0.000	0.000
Undecanes (11)	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>
Totals	100.000	8.682	100.000

Computed Real Characteristics Of Total Sample:

Specific Gravity	0.908	(Air=1)
Compressibility (Z)	0.9951	
Molecular Weight	26.18	
Gross Heating Value		
Dry Basis	1353	BTU/CF
Saturated Basis	1331	BTU/CF