OIL PRODUCTION GENERAL PERMIT
NOTICE OF INTENT

SIGNAL LLC,
ROGERS 1H PRODUCTION FACILITY

Woodville, Mississippi
Wilkinson County

March 2020

PREPARED BY:

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

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EXECUTIVE SUMMARY

Signal LLC (Signal) owns and operates the Rogers 1H production facility for the purposes of oil production. The facility is located in Wilkinson County, Mississippi, and operates under the authority of Air Construction Permit No. 2940-00047. A copy of the permit is included in Appendix B. The site includes a conventional tank battery, flares, and associated well pad activities.

Due to the remote location of the well, no pipeline outlet exists for the well's produced gas. Therefore, Signal flares all produced gas from the well via a conventional candlestick (open-tipped) flare. Signal collects produced water into two (2) 400-bbl water tanks prior to offsite transport to a disposal well. Oil is collected into four (4) 400-bbl oil storage tanks before being trucked to market. Emissions associated with truck loading are vented to the atmosphere. Signal may also operate various small chemical storage vessels, including totes and drums, which are typically associated with well pad activities. Signal routes all emissions from the oil and water storage tanks to an enclosed flare.

The enclosed flare is an Abutec Model 100 and is designed to combust VOC vapors at an efficiency rate greater than 99%. Pertinent manufacturer's information is included in Appendix B. Further, the Abutec Model 100 enclosed flare has been performance tested with results submitted to and reviewed by the EPA, and consequently, been listed by the EPA as an effective control device that achieves the combustion control device performance requirements in NSPS subpart OOOO/OOOOa and NESHAP subparts HH and HHH. Operators who use a device in EPA's list is exempt from conducting performance tests under 40 CFR §60.5413(a)(7), §60.5413a(a)(7), §63.772(e) and/or §63.1282(d), and from submitting test results under §60.5413(e)(6), §60.5413a(e)(6), §63.775(d)(1)(ii) and/or §63.1285(d)(1)(ii). EPA's list of approved control devices is also included in Appendix B.

The EPA publishes a Control Cost Manual that provides guidance for the development of accurate and consistent costs for air pollution control devices. The Control Cost Manual focuses on point source and stationary area source air pollution controls. In Section 3.2. VOC Destruction Controls, Chapter 1- Flares, the EPA recognizes enclosed flares as a type of flare that is enclosed inside a shell that is internally insulated or shielded. This shell reduces noise, luminosity, and heat radiation and provides wind protection, which makes enclosed ground flares less susceptible to poor performance that can occur from open-flame flares during high winds. The referenced Control Cost Manual except is included in Appendix B.

Consequently, Signal 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 limits to be classified as a True Minor Source. Therefore, Signal will continue to restrict facility operations such that the flare is operated at all times during gas venting. Combustion of produced gas from the well and process gas from the heater treater and 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.

Signal will monitor the volume of gas produced by the well and will calculate the amount of gas emitted from the heater treater and tanks that is routed to the flare. Signal will calculate corresponding monthly VOC emissions flared from the well's gas and from the process gas. A meter will measure monthly flow of produced gas to the flare. Monthly oil production records, gas metering, and/or 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.

Further, is has been determined the facility is not subject to any of the following federal regulations.

40 CFR 60, Subpart Kb
The oil and water storage tanks each qualify under 40 CFR 60.110b(d)(4) as a vessel with a design capacity less than or equal to 1,589.874 m3 (420,000 gallons) used for petroleum or condensate stored, processed, or treated prior to custody transfer. Therefore, the tanks are not subject to NSPS Kb.

40 CFR 60, Subpart OOOO
The facility's oil storage tanks have uncontrolled VOC emissions that exceed the applicability threshold cited in 40 CFR 60.5365 of 6 tpy; however, Signal operates under Air Construction Permit No. 2940-00047, which requires combustion of all tank emissions. Therefore, since the oil and water storage tanks' emissions are required to be combusted by the permit; the tanks are not affected sources under NSPS OOOO.

40 CFR 60, Subpart OOOOa
The facility commenced operations prior to the effective date of the rule is August 2, 2016, and is therefore not subject to any provisions of NSPS OOOOa.

Non-Applicability of All Other NSPS
NSPS standards are developed for particular industrial source categories. Other than the NSPS addressed above, the applicability of a particular NSPS to a facility can be readily ascertained based on the industrial source category covered. All other NSPS are categorically not applicable to the facility.

40 CFR 63, Subpart HH
There are no TEG dehydration units at the facility; therefore, the facility is not subject to NESHAP HH.

40 CFR 63, Subpart HHH
The facility is an area source; therefore, NESHAP HHH is not applicable to the facility.

40 CFR 63, Subpart ZZZZ
There are no RICE at the facility; therefore, the facility is not subject to NESHAP ZZZZ.

Non-Applicability of All Other NESHAP

As with the NSPS standards, NESHAP are primarily developed for particular industrial source categories. Therefore, the applicability of a particular NESHAP to a facility can be readily ascertained based on the industrial source category covered. All NESHAP regulations, both in 40 CFR 61 and 40 CFR 63, besides those specifically discussed above, are not applicable.

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: Signal LLC

B. Facility Name(*if different than A. above)* : Rogers 1H Production Facility

C. Physical Address

1. Street Address: Highway 24
2. City: Woodville
3. State: MS
4. County: Wilkinson
5. Zip Code: 39669
6. Telephone No.: N/A
7. Fax No.: N/A
8. Are facility records kept at this location? ☐ Yes ☑ No. Please complete Item 10 of this form.

D. Mailing Address

1. Street Address or P.O. Box: 4273 I-55 N, Suite 1-B
2. City: Jackson
3. State: MS
4. Zip Code: 39206

E. 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)* : 31/04/44.95
4. Longitude (*degrees/minutes/seconds*): 91/10/30.70
5. Elevation (*feet*): 320

2. Name and Address of Facility Contact

A. Name: Stan Martin
Title: VP/Manager

B. Mailing Address

1. Street Address or P.O. Box: 4273 I-55 N, Suite 1-B
2. City: Jackson
3. State: MS
4. Zip Code: 39206
5. Email: smartin@signaloilandga
6. Telephone No.: 601-987-4910
7. Fax No.: 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

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. Email: _____
6. Telephone No.: _____ 7. Fax No.: _____

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: Stan Martin Title: VP/Manager

B. Mailing Address

1. Street Address or P.O. Box: 4273 I-55 N, Suite 1-B
2. City: Jackson 3. State: MS
4. Zip Code: 39206 5. Email: smartin@signaloilandga
6. Telephone No.: 601-987-4910 7. Fax No.: _____

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

☐ Yes ☑ No

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

☐ Yes ☐ No ☐ Request for authorization is attached

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

☑ Initial Coverage

☐ Re-Coverage for existing Coverage

☐ Modification with Public Notice

☐ Modification without Public Notice

☐ Update Compliance Plan

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

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

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

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

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

7. Process/Product Details

Maximum Anticipated Well(s) Production for Faciltiy:

Produced Material	Throughput	Units
Gas	0.056	MMCF/day
Oil	80	barrels/day
Water	86	barrels/day
Other (Specify)		

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

Produced Material	Throughput	Units
Flared Gas	<0.056	MMCF/day
Oil	<80	barrels/day
Water	<86	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: 4273 I-55 N, Suite 1-B
2. City: Jackson
3. State: MS
4. County: Hinds
5. Zip Code: 39206
6. Telephone No.: 601-987-4910
7. Fax No.: N/A

Records must be readily accessible in accordance with OPGP Condition 5.1.

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

Facility (Agency Interest) Information	Section OPGP - A

11. Certification

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

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

Signature of Responsible Official/DAR — **Date**: 12/20/2019

Stan Martin

Printed Name — **Date**: 12/20/2019

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

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

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 OGP-B.3 and GHGs in Section OGP-B.4. Emission Point numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Emissions > 0.01 TPY must be included. Please do not change the column widths on this table.

Emission	TSP[1] (PM)		PM-10[1]		PM-2.5[1]		SO_2		NOx		CO		VOC		TRS[2]		Lead		Total HAPs	
Point ID	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
E1	---	---	---	---	---	---	---	---	---	---	---	---	47.26	207.00	0.00	0.00	0.00	0.00	0.85	3.73
E2	---	---	---	---	---	---	---	---	---	---	---	---	0.03	0.14	0.00	0.00	0.00	0.00	0.00	0.01
E3	Gas Routed to the Flare																			
E4	0.00	0.01	0.01	0.03	0.01	0.03	0.00	0.00	0.10	0.43	0.08	0.36	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.01
E5	---	---	---	---	---	---	---	---	---	---	---	---	0.74	3.25	0.00	0.00	0.00	0.00	0.01	0.05
E6	---	---	---	---	---	---	---	---	---	---	---	---	3.85	16.88	0.00	0.00	0.00	0.00	0.05	0.24
Totals	0.00	0.01	0.01	0.03	0.01	0.03	0.00	0.00	0.10	0.43	0.08	0.36	51.89	227.29	0.00	0.00	0.00	0.00	0.92	4.03

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

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

Section OPGP-B.2: Proposed Allowable Emissions

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

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. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Additional columns may be added if there are regulated pollutants (other than HAPs and GHGs) emitted at the facility.

Emission Point ID	TSP[1]		PM10[1]		PM2.5[1]		SO_2		NOx		CO		VOC		TRS		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
E1	0.02	0.10	0.02	0.10	0.02	0.10	0.00	0.00	0.22	0.95	0.99	4.33	0.95	4.14	0.00	0.00	0.00	0.00
E2	---	---	---	---	---	---	---	---	---	---	---	---	0.03	0.14	0.00	0.00	0.00	0.00
E3	Gas Routed to the Flare																	
E4	0.00	0.01	0.01	0.03	0.01	0.03	0.00	0.00	0.10	0.43	0.08	0.36	0.01	0.02	0.00	0.00	0.00	0.00
E5	---	---	---	---	---	---	---	---	---	---	---	---	0.74	3.25	0.00	0.00	0.00	0.00
E6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.04	0.16	0.08	0.34	0.00	0.00	0.00	0.00
Totals	0.03	0.12	0.03	0.14	0.03	0.14	0.00	0.00	0.32	1.41	1.11	4.85	1.80	7.89	0.00	0.00	0.00	0.00

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

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

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

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

In the table below, report the Proposed Allowable Emissions (Potential to Emit) for each HAP from each regulated emission unit if the HAP > 0.01 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. 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		Benzene		n-Hexane		Toluene		Ethylbenzene		Xylenes		2,2,4-Trimethylpentane					
	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				
E1	0.0170	0.0745	0.0021	0.0092	0.0127	0.0555	0.0016	0.0069	0.0001	0.0006	0.0008	0.0034	0.0001	0.0006				
E2	0.0029	0.0125	<0.0001	<0.0001	0.0031	0.0125	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001				
E3			Gas routed to flare															
E4	0.0019	0.0081	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001				
E5	0.0104	0.0453	0.0015	0.0065	0.0073	0.0319	0.0010	0.0043	0.0001	0.0004	0.0005	0.0020	0.0001	0.0003				
E6	0.0011	0.0048	0.0002	0.0007	0.0008	0.0033	0.0000	0.0004	0.0000	0.0000	0.0000	0.0002	0.0000	0.0000				
Totals:	0.0332	0.1453	0.0037	0.0164	0.0238	0.1032	0.0026	0.0116	0.0002	0.0010	0.0013	0.0056	0.0002	0.0009				

Section OPGP-B.4: Greenhouse Gas Emissions

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

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

		CO_2 (non-biogenic) ton/yr	CO_2 (biogenic)[2] ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC[3] ton/yr					Total GHG Mass Basis ton/yr[5]	Total CO_2e ton/yr[6]
Emission Point ID	**GWPs [1]**	**1**	**1**	**298**	**25**	**22,800**	**footnote 4**						
E1	**mass GHG**	1730.83	0	0.00	5.69	0	0					1736.52	N/A
	CO_2e	1730.83	0	1.18	142.25	0	0					N/A	1874.26
E2	**mass GHG**	0.07	0	0.00	0.29	0	0					0.36	N/A
	CO_2e	0.07	0	0.00	7.25	0	0					N/A	7.32
E3	**mass GHG**	0.00	0	0.00	0.00	0	0					0.00	N/A
	CO_2e	0.00	0	0.29	0.00	0	0					N/A	0.29
E4	**mass GHG**	512.21	0	0.00	0.01	0	0					512.22	N/A
	CO_2e	512.21	0	0.00	0.24	0	0					N/A	512.45
E5	**mass GHG**	0.00	0	0.00	0.00	0	0					0.00	N/A
	CO_2e	0.00	0	0.00	0.00	0	0					N/A	0.00
E6	**mass GHG**	67.55	0	0.00	0.12	0	0					67.67	N/A
	CO_2e	67.55	0	0.00	3.00	0	0					N/A	70.55
FACILITY TOTAL	**mass GHG**	2310.66	0	0.00	6.11	0	0					2316.77	N/A
	CO_2e	2310.66	0	1.46	152.74	0	0					N/A	2,465

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

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

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

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

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

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

Section OPGP-B.5: Stack Parameters and Exit Conditions
MDEQ NOTICE OF INTENT FOR COVERAGE UNDER THE OIL PRODUCTION GENERAL PERMIT TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE

Emission Point numbering must be consistent throughout the application package.

Emission Point ID	Orientation (H-Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Base Elevation (ft)	Exit Temp. (^{o}F)	Inside Diameter or Dimensions (ft)	Velocity (ft/sec)	Moisture by Volume (%)	Geographic Position (degrees/minutes/seconds)	
									Latitude	Longitude
E1	V	No	20	320	1500	0.7	992	<1	31/4/43.91	91/10/31.69
E2	Fugitive Equipment Leaks - No dedicated stack									
E3	Process Gas - Emissions routed to E1									
E4	V	No	30	320	800	1.25	6	<1	31/4/46.27	91/10/29.00
E5	Truck Loading Activities - No dedicated stack									
E6	V	No	20	320	1500	0.7	992	<1	31/4/43.89	91/10/31.67

[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.): E4

B. Equipment Description: One (1) Heater Treater, with a 1.0 MMBTUH burner.

C. Manufacturer: Custom D. Date of Manufacture and No.: Pre-2015

E. Maximum Heat Input (higher heating value): 1.0 MMBtu/hr F. Nominal Heat Input Capacity: 1.0 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	980	8.6 MMCF

Please list any fuel components that are hazardous air pollutants and the percentage in the fuel:
HAP constituency of the well's produced gas is speciated in the attached gas analysis.

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Fuel Burning Equipment – External Combustion Sources

Section OPGP-C

1. Emission Point Description

A. Emission Point Designation (Ref. No.): E1

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.: Pre-2015

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:
HAP constituency of the well's produced gas is speciated in the attached gas analysis.

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

Tank Summary | Section OPGP-E

1. Emission Point Description

A. Emission Point Designation (Ref. No.): E6 (Oil Storage Tank No. 1)

B. Product(s) Stored: Oil

C. Status: ☒ Operating ☐ Proposed ☐ Under Construction

D. Date of construction, reconstruction, or most recent modification (for existing sources) or date of anticipated construction: 2015

2. Tank Data

A. Tank Specifications:

1.	Design capacity	16,800	gallons		
2.	True vapor pressure at storage temperature:	11.55	psia @	ambient	°F
3.	Maximum true vapor pressure (as defined in §60.111b)	11.55	psia @	ambient	°F
4.	Reid vapor pressure at storage temperature:	11.55	psia @	ambient	°F
5.	Density of product at storage temperature:	7.2	lb/gal		
6.	Molecular weight of product vapor at storage temp.	48	lb/lbmol		

B. Tank Orientation: ☒ Vertical ☐ Horizontal

C. Type of Tank:

☒ Fixed Roof ☐ External Floating Roof ☐ Internal Floating Roof

☐ Pressure ☐ Variable Vapor Space ☐ Other: _____

D. Is the tank equipped with a Vapor Recovery System and/or flare? ☐ Yes ☒ No

If yes, describe below and include the efficiency of each.
Tank emissions are vented to the flare.

E. Closest City:

☐ Jackson, MS ☐ Meridian, MS ☐ Tupelo, MS ☐ Mobile, AL

☐ New Orleans, LA ☐ Memphis, TN ☒ Baton Rouge, LA

F. Is an E&P or similar report described in Condition 5.4(5) of the General Permit included for this tank in the Notice of Intent? ☐ Yes ☒ No
*An actual gas analysis was utilized.

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

Tank Summary | Section OPGP-E

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: ~10 (est. for each oil storage tank)
7. Maximum throughput: 16,040 bbl/yr (for entire tank battery)
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: 1 feet

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

Tank Summary | Section OPGP-E

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

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

Tank Summary | Section OPGP-E

6. External Floating Roof Tank (continued)

A. Tank Characteristics (continued):

6. Paint Color/Shade:

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

☐ Gray/Light ☐ Gray/Medium ☐ 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)
Tank emissions are routed to the flare.			

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 OGP Application Instructions. A list of regulated air pollutants and a link to EPA's list of hazardous air pollutants is provided in the OGP 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".

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

Tank Summary | Section OPGP-E

1. Emission Point Description

A. Emission Point Designation (Ref. No.): E6 (Oil Storage Tank No. 2)

B. Product(s) Stored: Oil

C. Status: ☒ Operating ☐ Proposed ☐ Under Construction

D. Date of construction, reconstruction, or most recent modification (for existing sources) or date of anticipated construction: 2015

2. Tank Data

A. Tank Specifications:

1.	Design capacity	16,800	gallons		
2.	True vapor pressure at storage temperature:	11.55	psia @	ambient	°F
3.	Maximum true vapor pressure (as defined in §60.111b)	11.55	psia @	ambient	°F
4.	Reid vapor pressure at storage temperature:	11.55	psia @	ambient	°F
5.	Density of product at storage temperature:	7.2	lb/gal		
6.	Molecular weight of product vapor at storage temp.	48	lb/lbmol		

B. Tank Orientation: ☒ Vertical ☐ Horizontal

C. Type of Tank:

☒ Fixed Roof ☐ External Floating Roof ☐ Internal Floating Roof

☐ Pressure ☐ Variable Vapor Space ☐ Other: _____

D. Is the tank equipped with a Vapor Recovery System and/or flare? ☐ Yes ☒ No

If yes, describe below and include the efficiency of each.
Tank emissions are vented to the flare.

E. Closest City:

☐ Jackson, MS ☐ Meridian, MS ☐ Tupelo, MS ☐ Mobile, AL

☐ New Orleans, LA ☐ Memphis, TN ☒ Baton Rouge, LA

F. Is an E&P or similar report described in Condition 5.4(5) of the General Permit included for this tank in the Notice of Intent? ☐ Yes ☒ No
*An actual gas analysis was utilized.

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

Tank Summary | Section OPGP-E

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: ~10 (est. for each oil storage tank)
7. Maximum throughput: 16,040 bbl/yr (for entire tank battery)
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: 1 feet

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

Tank Summary | Section OPGP-E

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

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

Tank Summary | Section OPGP-E

6. External Floating Roof Tank (continued)

A. Tank Characteristics (continued):

6. Paint Color/Shade:

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

☐ Gray/Light ☐ Gray/Medium ☐ 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)
Tank emissions are routed to the flare.			

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 OGP Application Instructions. A list of regulated air pollutants and a link to EPA's list of hazardous air pollutants is provided in the OGP 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".

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

Tank Summary | Section OPGP-E

1. Emission Point Description

A. Emission Point Designation (Ref. No.): E6 (Oil Storage Tank No. 3)

B. Product(s) Stored: Oil

C. Status: ☒ Operating ☐ Proposed ☐ Under Construction

D. Date of construction, reconstruction, or most recent modification (for existing sources) or date of anticipated construction: 2015

2. Tank Data

A. Tank Specifications:

1.	Design capacity	16,800	gallons		
2.	True vapor pressure at storage temperature:	11.55	psia @	ambient	°F
3.	Maximum true vapor pressure (as defined in §60.111b)	11.55	psia @	ambient	°F
4.	Reid vapor pressure at storage temperature:	11.55	psia @	ambient	°F
5.	Density of product at storage temperature:	7.2	lb/gal		
6.	Molecular weight of product vapor at storage temp.	48	lb/lbmol		

B. Tank Orientation: ☒ Vertical ☐ Horizontal

C. Type of Tank:

☒ Fixed Roof ☐ External Floating Roof ☐ Internal Floating Roof

☐ Pressure ☐ Variable Vapor Space ☐ Other: _____

D. Is the tank equipped with a Vapor Recovery System and/or flare? ☐ Yes ☒ No

If yes, describe below and include the efficiency of each.
Tank emissions are vented to the flare.

E. Closest City:

☐ Jackson, MS ☐ Meridian, MS ☐ Tupelo, MS ☐ Mobile, AL

☐ New Orleans, LA ☐ Memphis, TN ☒ Baton Rouge, LA

F. Is an E&P or similar report described in Condition 5.4(5) of the General Permit included for this tank in the Notice of Intent? ☐ Yes ☒ No
*An actual gas analysis was utilized.

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

Tank Summary | Section OPGP-E

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: ~10 (est. for each oil storage tank)
7. Maximum throughput: 16,040 bbl/yr (for entire tank battery)
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: 1 feet

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

Tank Summary | Section OPGP-E

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

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

Tank Summary | Section OPGP-E

6. External Floating Roof Tank (continued)

A. Tank Characteristics (continued):

6. Paint Color/Shade:

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

☐ Gray/Light ☐ Gray/Medium ☐ 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)
Tank emissions are routed to the flare.			

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 OGP Application Instructions. A list of regulated air pollutants and a link to EPA's list of hazardous air pollutants is provided in the OGP 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".

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

Tank Summary | Section OPGP-E

1. Emission Point Description

A. Emission Point Designation (Ref. No.): E6 (Oil Storage Tank No. 4)

B. Product(s) Stored: Oil

C. Status: ☒ Operating ☐ Proposed ☐ Under Construction

D. Date of construction, reconstruction, or most recent modification (for existing sources) or date of anticipated construction: 2015

2. Tank Data

A. Tank Specifications:

1.	Design capacity	16,800	gallons		
2.	True vapor pressure at storage temperature:	11.55	psia @	ambient	°F
3.	Maximum true vapor pressure (as defined in §60.111b)	11.55	psia @	ambient	°F
4.	Reid vapor pressure at storage temperature:	11.55	psia @	ambient	°F
5.	Density of product at storage temperature:	7.2	lb/gal		
6.	Molecular weight of product vapor at storage temp.	48	lb/lbmol		

B. Tank Orientation: ☒ Vertical ☐ Horizontal

C. Type of Tank:

☒ Fixed Roof ☐ External Floating Roof ☐ Internal Floating Roof

☐ Pressure ☐ Variable Vapor Space ☐ Other: _____

D. Is the tank equipped with a Vapor Recovery System and/or flare? ☐ Yes ☒ No

If yes, describe below and include the efficiency of each.
Tank emissions are vented to the flare.

E. Closest City:

☐ Jackson, MS ☐ Meridian, MS ☐ Tupelo, MS ☐ Mobile, AL

☐ New Orleans, LA ☐ Memphis, TN ☒ Baton Rouge, LA

F. Is an E&P or similar report described in Condition 5.4(5) of the General Permit included for this tank in the Notice of Intent? ☐ Yes ☒ No
*An actual gas analysis was utilized.

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

Tank Summary | Section OPGP-E

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: ~10 (est. for each oil storage tank)
7. Maximum throughput: 16,040 bbl/yr (for entire tank battery)
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: 1 feet

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

Tank Summary | Section OPGP-E

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

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

Tank Summary | Section OPGP-E

6. External Floating Roof Tank (continued)

A. Tank Characteristics (continued):

6. Paint Color/Shade:

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

☐ Gray/Light ☐ Gray/Medium ☐ 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)
Tank emissions are routed to the flare.			

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 OGP Application Instructions. A list of regulated air pollutants and a link to EPA's list of hazardous air pollutants is provided in the OGP 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".

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

Tank Summary | Section OPGP-E

1. Emission Point Description

A. Emission Point Designation (Ref. No.): E6 (Water Storage Tank No. 1)

B. Product(s) Stored: Produced Water

C. Status: ☒ Operating ☐ Proposed ☐ Under Construction

D. Date of construction, reconstruction, or most recent modification (for existing sources) or date of anticipated construction: 2015

2. Tank Data

A. Tank Specifications:

1.	Design capacity	16,800	gallons		
2.	True vapor pressure at storage temperature:	1.15	psia @	ambient	°F
3.	Maximum true vapor pressure (as defined in §60.111b)	1.15	psia @	ambient	°F
4.	Reid vapor pressure at storage temperature:	1.15	psia @	ambient	°F
5.	Density of product at storage temperature:	7.2	lb/gal		
6.	Molecular weight of product vapor at storage temp.	48	lb/lbmol		

B. Tank Orientation: ☒ Vertical ☐ Horizontal

C. Type of Tank:

☒ Fixed Roof ☐ External Floating Roof ☐ Internal Floating Roof

☐ Pressure ☐ Variable Vapor Space ☐ Other: _____

D. Is the tank equipped with a Vapor Recovery System and/or flare? ☐ Yes ☒ No
If yes, describe below and include the efficiency of each.

E. Closest City:

☐ Jackson, MS ☐ Meridian, MS ☐ Tupelo, MS ☐ Mobile, AL

☐ New Orleans, LA ☐ Memphis, TN ☒ Baton Rouge, LA

F. Is an E&P or similar report described in Condition 5.4(5) of the General Permit included for this tank in the Notice of Intent? ☐ 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

Tank Summary | Section OPGP-E

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: ~22
7. Maximum throughput: 17,231 bbl/yr (for entire battery)
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: 1 feet

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

Tank Summary | Section OPGP-E

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

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

Tank Summary | Section OPGP-E

6. External Floating Roof Tank (continued)

A. Tank Characteristics (continued):

6. Paint Color/Shade:

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

☐ Gray/Light ☐ Gray/Medium ☐ 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)
Emissions from the tanks are routed to the flare.			

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 OGP Application Instructions. A list of regulated air pollutants and a link to EPA's list of hazardous air pollutants is provided in the OGP 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".

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

Tank Summary | Section OPGP-E

1. Emission Point Description

A. Emission Point Designation (Ref. No.): E6 (Water Storage Tank No. 2)

B. Product(s) Stored: Produced Water

C. Status: ☒ Operating ☐ Proposed ☐ Under Construction

D. Date of construction, reconstruction, or most recent modification (for existing sources) or date of anticipated construction: 2015

2. Tank Data

A. Tank Specifications:

1.	Design capacity	16,800	gallons		
2.	True vapor pressure at storage temperature:	1.15	psia @	ambient	°F
3.	Maximum true vapor pressure (as defined in §60.111b)	1.15	psia @	ambient	°F
4.	Reid vapor pressure at storage temperature:	1.15	psia @	ambient	°F
5.	Density of product at storage temperature:	7.2	lb/gal		
6.	Molecular weight of product vapor at storage temp.	48	lb/lbmol		

B. Tank Orientation: ☒ Vertical ☐ Horizontal

C. Type of Tank:

☒ Fixed Roof ☐ External Floating Roof ☐ Internal Floating Roof

☐ Pressure ☐ Variable Vapor Space ☐ Other: _____

D. Is the tank equipped with a Vapor Recovery System and/or flare? ☐ Yes ☒ No
If yes, describe below and include the efficiency of each.

E. Closest City:

☐ Jackson, MS ☐ Meridian, MS ☐ Tupelo, MS ☐ Mobile, AL

☐ New Orleans, LA ☐ Memphis, TN ☒ Baton Rouge, LA

F. Is an E&P or similar report described in Condition 5.4(5) of the General Permit included for this tank in the Notice of Intent? ☐ 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

Tank Summary | Section OPGP-E

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: ~22
7. Maximum throughput: 17,231 bbl/yr (for entire battery)
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: 1 feet

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

Tank Summary | Section OPGP-E

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

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

Tank Summary | Section OPGP-E

6. External Floating Roof Tank (continued)

A. Tank Characteristics (continued):

6. Paint Color/Shade:

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

☐ Gray/Light ☐ Gray/Medium ☐ 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)
Emissions from the tanks are routed to the flare.			

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 OGP Application Instructions. A list of regulated air pollutants and a link to EPA's list of hazardous air pollutants is provided in the OGP 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".

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.): E1

B. Equipment Description (include the process(es) that the flare controls emissions from): The flare is utilized to combust all produced gas from the well and to combust emissions from the heater treater.

C. Manufacturer: Abutec D. Model: _____

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: > 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: _____

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

Flare | Section OPGP-F

1. Equipment Description

A. Emission Point Designation (Ref. No.): E6

B. Equipment Description (include the process(es) that the flare controls emissions from): The enclosed flare is utilized to combust emissions from the oil and water tanks.

C. Manufacturer: Abutec D. Model: 100

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: > 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: _____

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
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.				
Flare	11 Miss. Admin. Code Pt. 2, R.1.4.B(2).	2015	2015	N/A
Tanks	40 CFR 60, Subpart OOOO (Applicability only-no requirements since tank emissions are controlled)	2015	2015	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

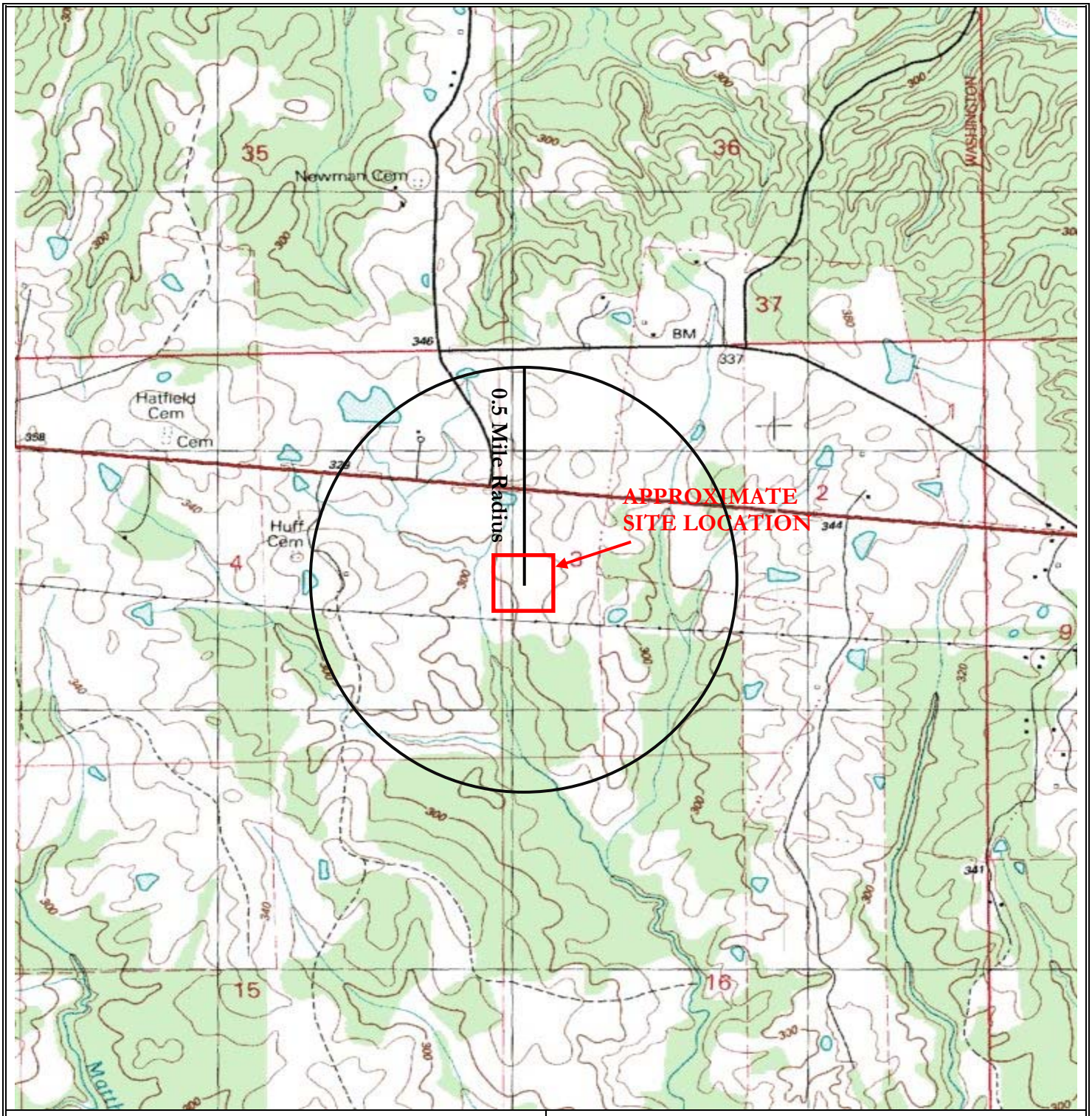
List all applicable state and federal requirements, including emission limits, operating restrictions, etc., and the applicable test methods or monitoring used to demonstrate compliance with each applicable requirement. Clearly identify federal regulations from state requirements. Provide the compliance 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_2S	1 grain H_2S per 100 standard cubic feet (1 gr/100 scf)	Recordkeeping of H2S composition of gas by gas analysis; Maintenance of continuous flame for gas combustion.
This list of examples is not intended to be conclusive for each type of emission source. This list only provides examples of how the table should be completed.				
Flare	11 Miss. Admin. Code Pt. 2, R.1.4.B(2).	H_2S	1 grain H_2S per 100 standard cubic feet (1 gr/100 scf)	Recordkeeping of H2S composition of gas by gas analysis; Maintenance of continuous flame for gas combustion while emissions are routed to the flare.
Tanks	40 CFR 60.5395(a)(1)	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.

LIST OF FIGURES

FIGURE 1:

SITE TOPOGRAPHICAL MAP



Rogers 1H Production Facility

Highway 24
Woodville, MS 39669

FC&E ENGINEERING, LLC
BRANDON-STARKVILLE-MONROE-ST. LOUIS
(601) 824-1860

N

FIGURE 1 - USGS Quad Map

SITE LOCATION

Woodville, Mississippi

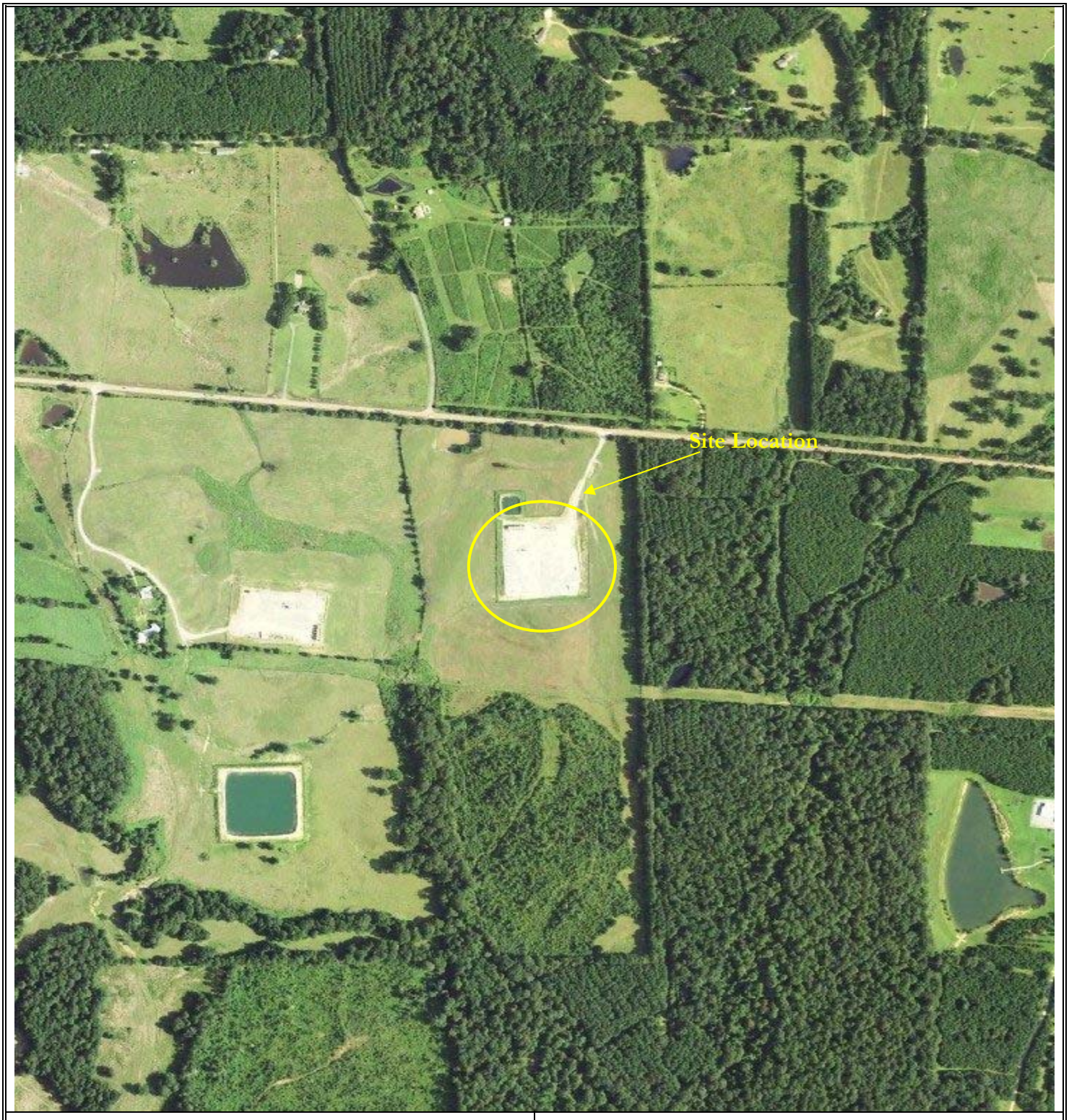
Wilkinson County

Scale 1" = 1,740 feet

Map Info: Newtonia, MS, 1988

FIGURE 2:

SITE AERIAL VIEW



Rogers 1H Production Facility
Highway 24
Woodville, MS 39669

FC&E ENGINEERING, LLC
BRANDON-STARKVILLE-MONROE-ST. LOUIS
(601) 824-1860

N

FIGURE 2 - Aerial Map

SITE LOCATION

Woodville, Mississippi

Wilkinson County

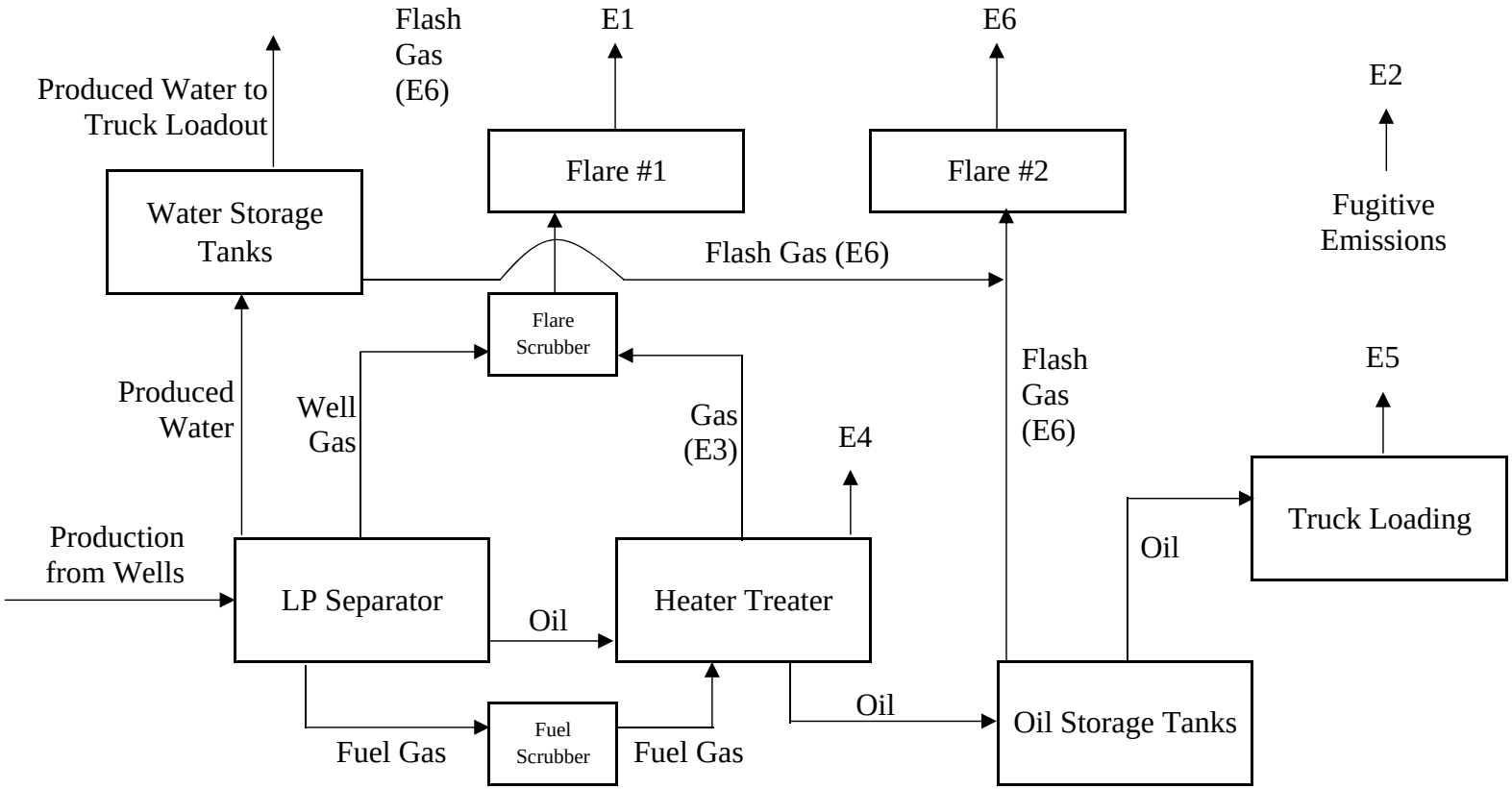
Scale 1" = 785 feet

Map Info: September 1, 2016

FIGURE 3:

PROCESS FLOW DIAGRAM

Signal LLC
Rogers 1H
Process Flow Diagram



APPENDIX A:

EMISSIONS CACULATIONS

Emission Unit ID	Emission Unit Description	Facility-Wide Uncontrolled Potential Annual Criteria Pollutant Emissions (U.S. short tons)															
		PM		PM10		PM2.5		SO2		NOx		CO		VOC		HAPs	
		pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy
E1	Well Gas	---	---	---	---	---	---	---	---	---	---	---	---	47.26	207.00	0.85	3.73
E2	Fugitives	---	---	---	---	---	---	---	---	---	---	---	---	0.03	0.14	0.00	0.01
E3	Heater Treater	Gas Routed to the Flare															
E4	Heater Trtr Combustion	0.00	0.01	0.01	0.03	0.01	0.03	0.00	0.00	0.10	0.43	0.08	0.36	0.01	0.02	0.00	0.01
E5	Truck L/O	---	---	---	---	---	---	---	---	---	---	---	---	0.74	3.25	0.01	0.05
E6	Tanks	---	---	---	---	---	---	---	---	---	---	---	---	3.85	16.88	0.05	0.24
Totals	**Totals**	**0.00**	**0.01**	**0.01**	**0.03**	**0.01**	**0.03**	**0.00**	**0.00**	**0.10**	**0.43**	**0.08**	**0.36**	**51.89**	**227.29**	**0.92**	**4.03**

Emission Unit ID	Emission Unit Description	Facility-Wide Controlled Annual Criteria Pollutant Emissions (U.S. short tons)															
		PM		PM10		PM2.5		SO2		NOx		CO		VOC		HAPs	
		pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy
E1	Well Gas (Flare #1)	0.02	0.10	0.02	0.10	0.02	0.10	0.00	0.00	0.22	0.95	0.99	4.33	0.95	4.14	0.02	0.07
E2	Fugitives	---	---	---	---	---	---	---	---	---	---	---	---	0.03	0.14	0.00	0.01
E3	Heater Treater	Gas Routed to the Flare															
E4	Heater Trtr Combustion	0.00	0.01	0.01	0.03	0.01	0.03	0.00	0.00	0.10	0.43	0.08	0.36	0.01	0.02	0.00	0.01
E5	Truck L/O	---	---	---	---	---	---	---	---	---	---	---	---	0.74	3.25	0.01	0.05
E6	Tanks (Flare #2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.04	0.16	0.08	0.34	0.00	0.00
Totals	**Totals**	**0.03**	**0.12**	**0.03**	**0.14**	**0.03**	**0.14**	**0.00**	**0.00**	**0.32**	**1.41**	**1.11**	**4.85**	**1.80**	**7.89**	**0.03**	**0.15**

Emission Unit ID	Emission Unit ID	Facility-Wide Potential Greenhouse Gas Emissions (metric tons)								Facility-Wide Potential Greenhouse Gas Emissions (short tons)							
		CO2		CH4		N2O		CO2e		CO2		CH4		N2O		CO2e	
		pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy
E1	Well Gas (Flare #1)	358.59	1570.62	1.18	5.17	0.00	0.00	388.27	1700.63	395.17	1730.83	1.30	5.69	0.00	0.00	427.88	1874.10
E2	Fugitives	0.01	0.06	0.06	0.26	0.00	0.00	1.51	6.64	0.02	0.07	0.07	0.29	0.00	0.00	1.67	7.31
E3	Heater Treater	Gas Routed to the Flare															
E4	Heater Trtr Combustion	106.12	464.81	0.00	0.01	0.00	0.00	106.23	465.29	116.94	512.22	0.00	0.01	0.00	0.00	117.07	512.74
E5	Truck L/O	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
E6	Tanks (Flare #2)	13.99	61.30	0.03	0.11	0.00	0.00	14.64	64.12	15.42	67.55	0.03	0.12	0.00	0.00	16.13	70.66
Totals	**Totals**	**478.72**	**2,096.79**	**1.27**	**5.55**	**0.00**	**0.00**	**510.66**	**2,236.67**	**527.55**	**2,310.66**	**1.40**	**6.12**	**0.00**	**0.00**	**562.74**	**2,464.81**

Flare

The following calculations represent emissions from the flare.

Gas Production (Flow to Flare)	55.85	MCF/Day
125% of prior calendar year flow:	20,384	MCF/Year

	Potential		Sample Calculations
Total Produced gas to flare =	667.6	tpy	20383.75 MCF/Yr x 1,000 CF/MCF x 1 mole/ 379.5 cf x 24.86 lb/mole / 2000 lb/ton
Produced Gas combustion heat =	27,956.3	MMBtu/yr	20383.75 MCF/Yr x 1,000 CF/MCF x 1371.5 BTU/CF / 1,000,000 BTU/MMBTU
Total flare combustion heat =	27,956.3	MMBtu/yr	
Total flare combustion heat =	3.19	MMBtu/hr	

		Potential Emissions		
Pollutant	Emission factor, lbs/MMBtu	lb/hr	tpy	Sample Calculations
NOx	0.068	0.22	0.95	27956.3 MMBTU/yr x 0.068 lb/MMBTU / 2,000 lb/ton
CO	0.31	0.99	4.33	27956.3 MMBTU/yr x 0.31 lb/MMBTU / 2,000 lb/ton
PM	0.00745	0.02	0.10	27956.3 MMBTU/yr x 0.00745 lb/MMBTU / 2,000 lb/ton
VOC	mass balance	0.95	4.14	
HAP	mass balance	0.0170	0.0745	
SO2	mass balance	0.00	0.00	
H2S	mass balance	0.00	0.00	

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 a minimum flare destruction efficiency of 98%.

Sample Calculations:

VOC = 667.6 tpy Produced Gas x 0.31 wt. fraction VOC x (1.0-0.98, combust. effic.) = 4.14 tpy

Total = 4.14 tpy

SO2 = 55.85 MCF/Day x 365 Days/Yr x 1,000 CF/MCF x 1 mole gas/379.5 CF gas x 0.001 mole % H2S x 64.08 lb/mole x 1 ton/2,000 lb x (1.0-0.98, combust. effic.) = 0.00 tpy

H2S = 55.85 MCF/Day x 365 Days/Yr x 1,000 CF/MCF x 1 mole gas/379.5 CF gas x 0.00 mole % H2S x 34.08 lb/mole x 1 ton/2,000 lb x 2 (combust. effic.)/100 = 0.00 tpy

HAPs = 4.14 TPY VOC x 0.018 = 0.07 tpy

Total = 0.07 tpy

Produced Gas		Totals	
Benzene=	0.0092 tpy	Benzene	0.0092 tpy
n-Hexane=	0.0555 tpy	n-Hexane	0.0555 tpy
E-benzene=	0.0006 tpy	yl-benzene	0.0006 tpy
Toluene=	0.0069 tpy	Toluene	0.0069 tpy
2,2,4-TMP=	0.0006 tpy	nylpentane	0.0006 tpy
Xylenes=	0.0034 tpy	Xylenes	0.0034 tpy

Flares

Produced Gas to flare, mmcf/yr	20.38
N2O emission factor, kg/mmBtu	0.0001
HHV, mmBtu/scf	0.0014
CO2 density, kg/ft3	0.0526
CH4 density, kg/ft3	0.0192
Flare efficiency	98%

carbon	CO2 (from combustion)		CO2 input	CH4, uncombusted		N2O	CO2e
atoms	cubic ft.	metric tpy	metric tpy	cubic ft.	metric tpy	metric tpy	metric tpy
			5.92E+01	2.69E+05	5.17E+00	2.80E-03	1.89E+02
1	1.32E+07	6.94E+02					6.94E+02
2	5.29E+06	2.79E+02					2.79E+02
3	5.47E+06	2.87E+02					2.87E+02
4	2.91E+06	1.53E+02					1.53E+02
5+	1.88E+06	9.88E+01					9.88E+01
Total	2.87E+07	1.51E+03	5.92E+01	2.69E+05	5.17E+00	2.80E-03	1.70E+03

Process Gas to flare, mmcf/yr	0.44
N2O emission factor, kg/mmBtu	0.0001
HHV, mmBtu/scf	0.0023
CO2 density, kg/ft3	0.0526
CH4 density, kg/ft3	0.0192
Flare efficiency	98%

carbon	CO2 (from combustion)		CO2 input	CH4, uncombusted		N2O	CO2e
atoms	cubic ft.	metric tpy	metric tpy	cubic ft.	metric tpy	metric tpy	metric tpy
			1.28E+00	5.82E+03	1.12E-01	1.01E-04	4.10E+00
1	5.31E+04	2.79E+00					2.79E+00
2	2.41E+05	1.27E+01					1.27E+01
3	4.47E+05	2.35E+01					2.35E+01
4	2.67E+05	1.40E+01					1.40E+01
5+	1.33E+05	6.99E+00					6.99E+00
Total	1.14E+06	6.00E+01	1.28E+00	5.82E+03	1.12E-01	1.01E-04	6.41E+01

Equipment Component Fugitive Emissions

Components	Counts	Emission Factor[1]	Emissions	Wt. Fraction VOC	VOC Emissions		VOC% HAP[3]	HAP Emissions		GHG Emissions, ton/yr		
		scf/hr/component	lbs/hr		lb/hr	tpy		lb/hr	tpy	CO2	CH4	CO2e
Valves:	**39**											
gas/vapor	18	0.027	0.0318	0.31	0.010	0.04	1.84%	0.0006	0.0026	0.014	0.059	1.498
light oil[2]	21	0.05	0.0688	0.31	0.021	0.09	1.84%	0.0013	0.0056	0.029	0.128	3.237
heavy oil	0	0.0005	0.0000	0.31	0.000	0.00	1.84%	0.0000	0.0000	0.000	0.000	0.000
Pumps:												
Light oil	0	0.01	0.0000	0.00	0.000	0.00	1.84%	0.0000	0.0000	0.000	0.000	0.000
heavy oil	0	0	0.0000	0.00	0.000	0.00	1.84%	0.0000	0.0000	0.000	0.000	0.000
Flanges:	70											
gas/vapor	36	0										
light oil	46	0.003	0.0090	0.00	0.000	0.00	1.84%	0.0002	0.0007	0.004	0.017	0.425
heavy oil	0	0.0009	0.0000	0.00	0.000	0.00	1.84%	0.0000	0.0000	0.000	0.000	0.000
Relief Valve:												
gas/vapor	0	0.04	0.0000	0.00	0.000	0.00	1.84%	0.0000	0.0000	0.000	0.000	0.000
Connectors:	74											
gas/vapor	30	0.003	0.0059	0.00	0.000	0.00	1.84%	0.0001	0.0005	0.003	0.011	0.277
light oil	44	0.007	0.0202	0.00	0.000	0.00	1.84%	0.0004	0.0016	0.009	0.038	0.949
heavy oil	0	0.0003	0.0000	0.00	0.000	0.00	1.84%	0.0000	0.0000	0.000	0.000	0.000
Other	1	0.3	0.0197	0.00	0.000	0.00	1.84%	0.0004	0.0016	0.008	0.037	0.925
Totals					**0.031**	**0.137**	**N/A**	**0.0029**	**0.0125**	**0.07**	**0.29**	**7.31**

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 fugitive emission components are assumed to be same composition as produced gas.

Gas Analysis and Conversions

Component	VOC and/or HAP?	% Volume	Molecular Weight (lbs/lb-mole)	Weight (lb)	Gas Composition, % by Weight
H2S	None	0.000%	34.08	0.000	0.00%
CO2	None	5.518%	44.10	2.433	9.79%
N2	None	0.530%	28.01	0.148	0.60%
Methane	None	66.012%	16.04	10.588	42.58%
Ethane	None	13.253%	30.07	3.985	16.03%
Propane	VOC	9.120%	44.10	4.022	16.18%
Isobutane	VOC	1.097%	58.12	0.638	2.56%
Butane	VOC	2.544%	58.12	1.479	5.95%
Isopentane	VOC	0.653%	72.15	0.471	1.89%
Pentane	VOC	0.507%	72.15	0.366	1.47%
Hexanes	VOC	0.278%	86.18	0.240	0.96%
Heptanes	VOC	0.183%	100.21	0.183	0.74%
Octanes	VOC	0.096%	114.23	0.110	0.44%
Nonanes	VOC	0.026%	128.20	0.033	0.13%
Decanes	VOC	0.018%	142.29	0.026	0.10%
n-Hexane	VOC and HAP	0.120%	86.18	0.103	0.42%
2,2,4-Trimeth.	VOC and HAP	0.001%	114.23	0.001	0.00%
Benzenes	VOC and HAP	0.022%	78.11	0.017	0.07%
Toluene	VOC and HAP	0.014%	92.14	0.013	0.05%
E-Benzene	VOC and HAP	0.001%	106.17	0.001	0.00%
Xylenes	VOC and HAP	0.006%	106.16	0.006	0.03%
					100.00%

VOC Weight (lb)	7.709 lb
VOC, weight fraction	0.310
HAP weight % of Gas	14.21%
HAP Weight (lb)	0.142 lb
HAP to VOC Weight Ratio	0.0180
H2S to VOC Weight Ratio	0.0000
H2S to SO2 Conversion Factor	1.8809
SO2 Weight (lb)	0.000 lb
SO2 to VOC Weight Ratio	0.0000
HAP Percentage of VOCs	1.84%
VOC Percent Volume of Gas	14.686%
Heat of combustion, Btu/cf (Dry)	1371.5
Molecular weight	24.86

Field: Wilkinson, MS
Station Name: Rogers 1H
Station Number: 807511
Sample Point: Scrubber
Analyzed: 10/15/2018 12:56:17 by CC

Sampled By: CF-SPL
Sample Of: Gas Spot
Sample Date: 10/10/2018
Sample Conditions: 89 psig, @ 100 °F
Method: GPA 2286
Cylinder No: 2030-1504

Components	Mol %	Wt %
Nitrogen	0.530	0.598
Methane	66.012	42.633
Carbon Dioxide	5.518	9.777
Ethane	13.253	16.043
Propane	9.120	16.190
Iso-Butane	1.097	2.567
n-Butane	2.544	5.953
Iso-Pentane	0.653	1.897
n-Pentane	0.507	1.473
2,2-Dimethylbutane	0.004	0.013
2,3-Dimethylbutane	0.024	0.085
Cyclopentane	0.030	0.085
2-Methylpentane	0.107	0.387
3-Methylpentane	0.061	0.215
n-Hexane	0.120	0.422
2,2-Dimethylpentane	0.002	0.009
Methylcyclopentane	0.068	0.232
2,4-Dimethylpentane	0.006	0.023
2,2,3-Trimethylbutane	0.001	0.002
Benzene	0.022	0.070
3,3-Dimethylpentane	0.001	0.003
Cyclohexane	0.051	0.172
2-Methylhexane	0.019	0.077
2,3-Dimethylpentane	0.006	0.024
1,1-Dimethylcyclopentane	0.006	0.022
3-Methylhexane	0.018	0.072
1,t-3-Dimethylcyclopentane	0.007	0.029
1,c-3-Dimethylcyclopentane	0.007	0.028
3-Ethylpentane	0.001	0.003
1,t-2-Dimethylcyclopentane	0.009	0.035
2,2,4-Trimethylpentane	0.001	0.004
n-Heptane	0.031	0.125
1,1,3-Trimethylcyclopentane	0.003	0.014
2,2-Dimethylhexane	0.001	0.006
Methylcyclohexane	0.047	0.185
2,2,3-Trimethylpentane	NIL	0.001
2,4-Dimethylhexane	0.001	0.003
Ethylcyclopentane	0.002	0.008
2,5-Dimethylhexane	0.004	0.019
1,c-2-Dimethylcyclopentane	0.003	0.011
1,t-2,c-4-Trimethylcyclopentane	0.001	0.007
1,t-2,c-3-Trimethylcyclopentane	NIL	0.001

Field: Wilkinson, MS
Station Name: Rogers 1H
Station Number: 807511
Sample Point: Scrubber
Analyzed: 10/15/2018 12:56:17 by CC

Sampled By: CF-SPL
Sample Of: Gas Spot
Sample Date: 10/10/2018
Sample Conditions: 89 psig, @ 100 °F
Method: GPA 2286
Cylinder No: 2030-1504

Components	Mol %	Wt %
Toluene	0.014	0.050
1,1,2-Trimethylcyclopentane	0.001	0.004
3,4-Dimethylhexane	NIL	0.001
2-Methylheptane	0.006	0.029
4-Methylheptane	0.001	0.007
Unknown Iso-Octane	0.001	0.002
2,3-Dimethylhexane	0.004	0.021
3-Methylheptane	0.006	0.030
1,c-3-Dimethylcyclohexane	0.003	0.014
1,t-4-Dimethylcyclohexane	NIL	0.001
1-Methyl-c-3-ethylcyclopentane	0.001	0.005
1-Methyl-t-3-ethylcyclopentane	NIL	0.001
1,t-2-Dimethylcyclohexane	0.001	0.003
n-Octane	0.011	0.048
Unknown Iso-Nonane	0.002	0.009
1,c-2,c-3-Trimethylcyclopentane	0.001	0.004
1,c-4-Dimethylcyclohexane	0.001	0.004
Isopropylcyclopentane	0.001	0.002
2,2-Dimethylheptane	0.001	0.003
1-Methyl-c-2-ethylcyclopentane	0.001	0.003
2,4-Dimethylheptane	0.001	0.003
2,2,3-Trimethylhexane	0.003	0.016
Ethylcyclohexane	0.001	0.005
1,c-3,c-5-Trimethylcyclohexane	0.001	0.004
n-Propylcyclopentane	0.001	0.004
1,1,4-Trimethylcyclohexane	0.001	0.002
1,1,3-Trimethylcyclohexane	NIL	0.002
2,3,3-Trimethylhexane	NIL	0.001
3,3-Dimethylheptane	0.001	0.003
Ethylbenzene	0.001	0.004
2,3-Dimethylheptane	0.001	0.004
3,4-Dimethylheptane	NIL	0.001
m-Xylene	0.003	0.013
p-Xylene	0.003	0.013
2-Methyloctane	0.001	0.004
4-Methyloctane	0.001	0.004
3-Methyloctane	0.001	0.007
1,c-3,t-5-Trimethylcyclohexane	0.001	0.002
o-Xylene	0.002	0.008
1,1,2-Trimethylcyclohexane	0.001	0.002
n-Nonane	0.004	0.018
Decanes Plus	0.018	0.116
	100.000	100.000

Heater Treater

Combustion Source	Capacity	Criteria Emissions, tons/yr							
	MMBTUH	PM	PM10	PM2.5	NOx	CO	VOC	SO2	HAP
Natural Gas Fired Heater Treater	1.00	0.008	0.033	0.033	0.429	0.361	0.024	0.003	0.008
Totals	**1.00**	0.008	0.033	0.033	0.429	0.361	0.024	0.003	0.008

Combustion Source	Capacity	GHG Emissions, metric tons/yr				GHG Emissions, short tons/yr			
	MMBTUH	CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e
Natural Gas Fired Heater Treater	1.00	464.806	0.009	0.001	465.286	512.22	0.01	0.00	512.74
Totals	**1.00**	464.806	0.009	0.001	465.286	**512.216**	**0.010**	**0.001**	**512.745**

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

Emission Factors, kg/MMBtu	
CO2	53.06
CH4	0.001
N2O	0.0001

Truck Loading Emissions Calculations

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

Where:

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

EPA "S" Factor	True VP of Liquid	Mol. Wt. Of Vapors	Temp. of Liquid	Sales Volume	Loading Rate	Uncontrolled Estimated Emissions, Total Hydrocarbons			Uncontrolled VOC Emissions	Uncontrolled HAP Emissions
	(psia)	(lb/lb-mole)	°(R)	(10^3 gal/yr)	(gal/hr)	L_L	(lb/hr)	(tpy)	(tpy)	(tpy)
1.45	10.0	41.01	545	674	16,000	13.60	217.52	4.58	3.25	0.0453

Benzene	0.0065 tpy
n-Hexane	0.0319 tpy
Ethyl-benzene	0.0004 tpy
Toluene	0.0043 tpy
2,2,4-Trimethylpentane	0.0003 tpy
Xylenes	0.0020 tpy

Tanks

Uncontrolled Emissions Summary from Oil Tanks

Total flash gas	27.47	SCF/bbl	
Oil tank annual throughput	16,040	bbl/year	
Total tank VOC emissions	16.88	VOC tpy	
Total tank HAP emissions	0.24	HAP tpy	
Benzene	0.03	tpy	
n-Hexane	0.17	tpy	
Ethyl-benzene	0.00	tpy	
Toluene	0.02	tpy	
2,2,4-Trimethylpentane	0.00	tpy	
Xylenes	0.01	tpy	

Controlled Emissions Summary from Oil Tanks

Total tank VOC emissions	0.34	VOC tpy
Total tank HAP emissions	0.0047	HAP tpy
Benzene	0.0007	tpy
n-Hexane	0.0033	tpy
Ethyl-benzene	0.0000	tpy
Toluene	0.0004	tpy
2,2,4-Trimethylpentane	0.0000	tpy
Xylenes	0.0002	tpy

Controlled Emissions Summary from Water Tanks

Total tank VOC emissions	0.00	VOC tpy
Total tank HAP emissions	0.0000	HAP tpy
Benzene	0.0000	tpy
n-Hexane	0.0000	tpy
Ethyl-benzene	0.0000	tpy
Toluene	0.0000	tpy
2,2,4-Trimethylpentane	0.0000	tpy
Xylenes	0.0000	tpy

Component	VOC / HAP	Mol %	MW	Wt.	Wt. %
CO2	None	3.521%	44.10	1.553	3.79%
N2	None	0.000%	28.01	0.000	0.00%
Methane	None	12.290%	16.04	1.971	4.81%
Ethane	None	27.923%	30.07	8.396	20.47%
Propane	VOC	34.511%	44.10	15.219	37.11%
Isobutane	VOC	4.485%	58.12	2.607	6.36%
Butane	VOC	10.975%	58.12	6.379	15.55%
Isopentane	VOC	2.585%	72.15	1.865	4.55%
Pentane	VOC	2.036%	72.15	1.469	3.58%
i-Hexane	VOC	0.640%	86.18	0.552	1.34%
Heptanes	VOC	0.412%	100.21	0.413	1.01%
Octanes	VOC	0.132%	114.23	0.151	0.37%
Nonanes	VOC	0.020%	128.20	0.026	0.06%
Decanes	VOC	0.000%	142.29	0.000	0.00%
n-Hexane	VOC and HAP	0.332%	86.18	0.286	0.70%
2,2,4-Trimethylpentane	VOC and HAP	0.002%	114.23	0.002	0.01%
Benzenes	VOC and HAP	0.074%	78.11	0.058	0.14%
Toluene	VOC and HAP	0.042%	92.14	0.039	0.09%
E-Benzene	VOC and HAP	0.003%	106.17	0.003	0.01%
Xylenes	VOC and HAP	0.017%	106.16	0.018	0.04%
Total VOC		56.266%	MW	41.01	70.92%
Total HAP		0.470%			0.99%

Company:	Backwater Energy Partners, LLC	**Sample Of:**	Flash Gas
Field:	Wilkinson, MS	**Sample Date/Time:**	10/11/18 0:00
Well:	Rogers 1H	**Sample Psig & Temp:**	39 psi @ 138 °F
Station Number:	807511	**Sampled By:**	CF-SPL
Sample Point:	H.T. Oil Dump Valve	**Cylinder # :**	2030-5636
Comments:	EOS Flash Gas Composition		
	Staged Flash from 39 psi @ 138 °F to 0 psi @ 60 °F		

	MOL %	WEIGHT %	GPM's @ 15.025
NITROGEN			
METHANE	12.290	4.811	
CO2	3.521	3.781	
ETHANE	27.923	20.486	10.706
PROPANE	34.511	37.131	12.845
I-BUTANE	4.485	6.360	1.405
N-BUTANE	10.975	15.564	3.567
I-PENTANE	2.585	4.551	0.724
N-PENTANE	2.036	3.585	0.576
I-HEXANE	0.640	1.345	0.158
N-HEXANE	0.332	0.698	0.083
2,2,4 TRIMETHYLPENTANE	0.002	0.006	0.000
BENZENE	0.074	0.141	0.027
HEPTANES	0.412	0.971	0.092
TOLUENE	0.042	0.094	0.013
OCTANES	0.132	0.362	0.026
E-BENZENE	0.003	0.007	0.001
m,o,&p-XYLENE	0.017	0.045	0.005
NONANES	0.020	0.062	0.004
DECANES PLUS	0.000	0.000	0.000
TOTALS	100.000	100.000	30.232

CALCULATED VALUES

REAL DRY BTU AT 15.025 PSIA, 60 DEG.F	2293.2	
REAL WET BTU AT 15.025 PSIA, 60 DEG.F	2254.1	
RELATIVE DENSITY	1.4376	
COMPRESSIBILITY FACTOR	0.98448	
	C2+	C5+
GPM's @ 15.025 psia, 60 Deg.F	30.232	1.708

Flare

The following calculations represent emissions from the flare.

		Potential		Sample Calculations
Total Process gas to flare =		23.8	tpy	27.4651 CF/BBL x 16040 BBL/Yr x 1 mole/ 379.5 cf x 41.01 lb/mole / 2000 lb/ton
Process Gas combustion heat =		1,011.9	MMBtu/yr	27.4651 CF/BBL x 16040 BBL/Yr x 2297 BTU/CF / 1,000,000 BTU/MMBTU
Total flare combustion heat =		1,011.9	MMBtu/yr	
Total flare combustion heat =		0.12	MMBtu/hr	

		Potential Emissions		
Pollutant	Emission factor, lbs/MMBtu	lb/hr	tpy	Sample Calculations
NOx	0.068	0.01	0.03	1011.92 MMBTU/yr x 0.068 lb/MMBTU / 2,000 lb/ton
CO	0.31	0.04	0.16	1011.92 MMBTU/yr x 0.31 lb/MMBTU / 2,000 lb/ton
PM	0.00745	0.00	0.00	1011.92 MMBTU/yr x 0.00745 lb/MMBTU / 2,000 lb/ton
SO2	mass balance	0.00	0.00	
H2S	mass balance	0.00	0.00	

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 a minimum flare destruction efficiency of 98%.

APPENDIX B:

BACKUP DOCUMENTATION

F0108 **2019120013**

Fee: $

Business ID: 654369
Filed: 04/01/2019 04:45 PM
C. Delbert Hosemann, Jr.
Secretary of State

DELBERT HOSEMANN
Secretary of State

P.O. BOX 136
JACKSON, MS 39205-0136

TELEPHONE: (601) 359-1633

2019 LLC Annual Report

Business Information

Business ID: 654369
Business Name: SIGNAL, LLC
State of Incorporation: MS
Business Email: payroll@sglrcpa.com
Phone: (***)***-****
FEIN: **-*******

Principal Address: 4273 I-55 NORTH, SUITE 1A
JACKSON, MS 392066157

Registered Agent

Name: Taylor, Glenn Gates

Address: 1076 Highland Colony Parkway Suite 100 (39157);PO Box 6020
Ridgeland, MS 39158

Managers and Members

Managers

Name:	***Address:***
Richard Partridge *Manager*	4273 I-55 NORTH, SUITE 1A JACKSON, MS 392066157

Members

Name:	***Address:***
Richard Partridge *Member*	4273 I-55 NORTH, SUITE 1A JACKSON, MS 392066157

Officers

Title/Name:	*Address:*	*Director:*
President:		☐
Vice President:		☐
Secretary:		☐
Treasurer:		☐

☐ This LLC has a written Operating Agreement.

NAICS Code/Nature of Business

213112 - Support Activities for Oil and Gas Operations
213112 - Support Activities for Oil and Gas Operations
213112 - Support Activities for Oil and Gas Operations

Signature

By entering my name in the space provided, I certify that I am authorized to file this document on behalf of this entity, have examined the document and, to the best of my knowledge and belief, it is true, correct and complete as of this day ***04/01/2019***.

Name:	*Address:*
Richard Partridge *Manager*	4273 I-55 North, Suite 1A Jackson, MS 39206

Officers List

Name:	***Address:***
Richard Partridge *Manager*	4273 I-55 NORTH, SUITE 1A JACKSON, MS 392066157
Richard Partridge *Member*	4273 I-55 NORTH, SUITE 1A JACKSON, MS 392066157
RICHARD M FOUNTAIN *Other*	2679 INSURANCE CENTER DRIVE #B JACKSON, MS 39216

Performance Testing for Combustion Control Devices

Manufacturers' Performance Test[1]

NSPS OOOO/OOOOa and MACT HH/HHH

Manufacturer	Model Number	Date of Performance Test Submittal	Control Device Demonstrates Performance Requirements[2]	Maximum Inlet Flow Rate[3]
ABUTEC	ABUTEC 20	02/12/2013	Yes	1500 scfh
ABUTEC	ABUTEC 100	02/12/2013	Yes	6000 scfh
AEREON	AB-200	06/30/2017	Yes	8160 scfh
Alphabet Energy, Inc (AEI)	Alphabet PGC	03/23/2017	Yes	654 scfh
Big Iron Oilfield Service	BNECU PI36	08/08/2014	Yes	314 scfh
Big Iron Oilfield Service	BNECU PI48	08/08/2014	Yes	725 scfh
Big Iron Oilfield Service	60" Low Volume ECU	08/13/2018	Under Review	
Big Iron Oilfield Service	60" High Volume ECU	08/13/2018	Under Review	
Black Gold Rush	BGR-18	08/12/2014	Yes	319 scfh
Cimarron	CEI 1-24	08/12/2014	Yes	383 scfh
Cimarron	CEI 1-30	08/12/2014	Yes	625 scfh
Cimarron	CEI 1-48	08/12/2014	Yes	1250 scfh
Cimarron	CEI 1-60	08/12/2014	Yes	2400 scfh
Cimarron	48" HV ECD	08/12/2014	Yes	4553 scfh
COMM Engineering	COMM OOOO Combustor 200	03/06/2013	Yes	3300 scfh
COMM Engineering	Model 2	12/01/16	Yes	833 scfh
COMM Engineering	Model 3	12/01/16	Yes	2083 scfh
COMM Engineering	Model 4	12/01/16	Yes	5208 scfh
Coyote North	COMB 48"	11/10/2016	Yes	6354 scfh
GCO LLC	GCO ECD 1600	05/18/17	Yes	1500 scfh
GCO LLC	GCO ECD 2000	05/18/17	Yes	4170 scfh
Hy-Bon/EDI	CH2.5	09/16/2015	Yes	1500 scfh
Hy-Bon/EDI	CH10.0	06/16/2015	Yes	4170 scfh
IES, LLC	IES-48-02	06/07/2017	Yes	647 scfh

Manufacturer	Model Number	Date of Performance Test Submittal	Control Device Demonstrates Performance Requirements[2]	Maximum Inlet Flow Rate[3]
IES, LLC	IES-96-01	07/26/2017	Under Review	
JLCC Combustion	FC 20	09/09/2014	Yes	1090 scfh
John Zink	ZTOF040X30PF	06/26/2014	Yes	4120 scfh
Kimark	KSF 1-48	12/18/2013	Yes	1250 scfh
Kimark	KSF 2-60 (48”)	05/03/2017	Yes	4179 scfh
Leed Fabrication	36” Combustor (EC36)	11/18/2015	Yes	1004 scfh
Leed Fabrication	48” Combustor (EC48)	11/18/2015	Yes	1264 scfh
Leed Fabrication	48” “High Flow” Combustor (EC48-2S)	02/15/2017	Yes	4479 scfh
Midflow Services, LLC	COMB 48”	11/10/2016	Yes	6354 scfh
NOV	MEVC 20	02/12/2013	Yes	1500 scfh
NOV	MEVC 100	02/12/2013	Yes	6000 scfh
Questor Technology	Q100	04/24/2015	Yes	875 scfh
Questor Technology	Q250	03/20/2015	Yes	2292 scfh
REM Technology (Spartan Controls)	SlipStream GTS-12	02/16/2015	Yes	164 scfh
Schlumberger	SLB-36	05/09/2017	Yes	2449 scfh
Schlumberger	SLB-60	05/09/2017	Yes	8196 scfh
SFI Oil & Gas Production Systems, LLC	SCD-36	11/28/2016	Yes	1244 scfh
SFI Oil & Gas Production Systems, LLC	SCD-48	11/03/2016	Yes	2930 scfh
SFI Oil & Gas Production Systems, LLC	SCD-60	11/28/2016	Yes	3784 scfh
Thruster Technologies, LLC	V1	12/12/2018	Yes	4499 scfh

Manufacturer	Model Number	Date of Performance Test Submittal	Control Device Demonstrates Performance Requirements[2]	Maximum Inlet Flow Rate[3]
Tri-Point Oil and Gas Production Systems	18 Inch Combustor	6/25/2018	Under Review	
Tri-Point Oil and Gas Production Systems	24 Inch Combustor	6/25/2018	Under Review	
Zeeco, Inc	EGF-48-30 (aka EGF-4-30)	1/23/2017	Yes	5414 scfh

[1] The purpose of the table is to inform owners or operators the combustion control devices that have been manufacturer tested and for which the test results have been submitted to EPA for review. Inclusion on this list is for informational purposes only. EPA does not endorse any of these manufacturers or their products.

[2] "Yes" means that the manufacturer has demonstrated that the specific model of control device listed achieves the combustion control device performance requirements in NSPS subpart OOOO and NESHAP subparts HH and HHH through performance testing conducted as specified in these subparts. An owner or operator who uses a device listed above as "YES" is exempt from conducting performance tests under 40 CFR §60.5413(a)(7), §60.5413a(a)(7), §63.772(e) and/or §63.1282(d), and from submitting test results under §60.5413(e)(6), §60.5413a(e)(6), §63.775(d)(1)(ii) and/or §63.1285(d)(1)(ii), as applicable. "Yes" does not constitute an endorsement by EPA. Operation of such a device does not relieve the owner or operator of an affected facility from other compliance obligations under the rule.

[3]This column provides the maximum inlet flow rate determined by the manufacturer for the specified model, as required under §60.5413(d)(11)(ii), §60.5413a(d)(11)(ii), §63.772(h)(7)(ii), §63.1282(g)(7)(ii), as applicable.

[Updated 3/13/2019]

Section 3.2

VOC Destruction Controls

Chapter 1

Flares

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Contents

1.1 Introduction

Flaring is a high-temperature oxidation process used to burn waste gases containing combustible components such as volatile organic compounds (VOCs), natural gas (or methane), carbon monoxide (CO), and hydrogen (H_2). The waste gases are piped to a remote, usually elevated location, and burned in an open flame in ambient air using a specially designed burner tip, auxiliary fuel, and, in some cases, assist gases like steam or air to promote mixing for nearly complete (e.g., ≥ 98%) destruction of the combustible components in the waste gas. Note that destruction efficiency is the percentage of a specific pollutant in the flare vent gas that is converted to a different compound (such as carbon dioxide [CO_2], carbon monoxide, or another hydrocarbon intermediate), while combustion efficiency is the percentage of hydrocarbon in the flare vent gas that is completely converted to CO_2 and water vapor. The destruction efficiency of the gases being combusted in a flare will always be greater than the combustion efficiency of these same gases in that same flare. It is generally estimated that a combustion efficiency of 96.5 percent is equivalent to a destruction efficiency of 98 percent (U.S. EPA, 2015). Gases flared from refineries, petroleum production, chemical industries, and to some extent, from coke ovens, are composed largely of inerts and low molecular weight hydrocarbons with high heating value. Blast furnace flare gases are largely composed of inert species and CO, with low heating value. Flares are also used for burning waste gases generated by sewage digesters, coal gasification, rocket engine testing, nuclear power plants with sodium/water heat exchangers, heavy water plants, and ammonia fertilizer plants. (U.S. EPA, 2015)

Combustion requires three ingredients: fuel, an oxidizing agent (typically oxygen in air), and heat (or ignition source). Flares typically operate with pilot flames to provide the ignition source, and they use ambient air as the oxidizing agent. The waste gases to be flared typically provide the fuel necessary for combustion. Combustible gases generally have an upper and lower flammability limit. The upper flammability limit (UFL) is the highest concentration of a gas in air that is capable of burning. Above this flammability limit, the fuel is too rich to burn. The lower flammability limit (LFL) is the lowest concentration of the gas in air that is capable of burning. Below the LFL, the fuel is too lean to burn. Between the LFL and UFL, combustion can occur. Completeness of combustion in a flare is governed by flame temperature, residence time and flammability of the gas in the combustion zone, turbulent mixing of the components to complete the oxidation reaction, and available oxygen for free radical formation. Combustion is complete if all hydrocarbons and CO are converted to CO_2 and water. Incomplete combustion results in some hydrocarbons or CO discharged to the flare being unaltered or converted to other organic compounds such as aldehydes or acids.

The flaring process can produce some undesirable by-products including noise, smoke, heat radiation, light, sulfur oxides (SO_x), nitrogen oxides (NO_x), CO, and can be an undesirable potential source of ignition. However, by proper design, these can be minimized.

To improve the clarity of this chapter, the following terms are defined:

Assist air means all air that intentionally is introduced prior to or at a flare tip through nozzles or other hardware conveyance for the purposes including, but not limited to, protecting the design of the flare tip, promoting turbulence for mixing or inducing air into the flame. *Assist air* does not include the surrounding ambient air.

Assist steam means all steam that intentionally is introduced prior to or at a flare tip through nozzles or other hardware conveyance for the purposes including, but not limited to, protecting the design of the flare tip, promoting turbulence for mixing or inducing air into the flame.

Auxiliary fuel means all gas introduced to the flare in order to improve the heat content of combustion zone gas.

Combustion zone gas means all gases and vapors found just after a flare tip. This gas includes all flare vent gas, all assist steam, and that portion of assist air, if any, that is intentionally introduced to the flare vent gas or center steam prior to the flare tip.

Flare purge gas means gas introduced between a flare header's water seal and the flare tip to prevent oxygen infiltration (backflow) into the flare tip. For a flare with no water seal, the function of flare purge gas is performed by flare sweep gas.

Flare sweep gas means the gas intentionally introduced into the flare header system to maintain a constant flow of gas through the flare header to prevent oxygen buildup in the flare header and, for a flare without a flare gas recovery system, to prevent oxygen infiltration (backflow) into the flare tip.

Flare vent gas means all gas found just prior to the flare tip. This gas includes all flare waste gas, that portion of flare sweep gas that is not recovered, flare purge gas and auxiliary fuel, but does not include pilot gas, assist steam or assist air.

Flare waste gas means the gas from facility operations that is directed to a flare for the purpose of disposing of the gas.

Pilot gas means gas introduced into a flare tip that provides a flame to ignite the flare vent gas.

1.1.1 Flare Types

Flares are generally categorized in two ways: (1) by the height of the flare tip (i.e., ground or elevated), and (2) by the method of enhancing mixing at the flare tip (i.e., steam-assisted, air-assisted, pressure-assisted, or non-assisted). Elevating the flare can prevent potentially dangerous conditions at ground level where the open flame (i.e., an ignition source) is located near a process unit. Further, the products of combustion can be dispersed above working areas to reduce the effects of noise, heat, smoke, and objectionable odors.

In most flares, combustion occurs by means of a diffusion flame. A diffusion flame is one in which air diffuses across the boundary of the fuel/combustion product stream toward the center of the fuel flow, forming the envelope of a combustible gas mixture around a core of fuel gas. This mixture, on ignition, establishes a stable flame zone around the gas core

above the burner tip. This inner gas core is heated by diffusion of hot combustion products from the flame zone[1].

Cracking can occur with the formation of small hot particles of carbon that give the flame its characteristic luminosity. If there is an oxygen deficiency and if the carbon particles are cooled to below their ignition temperature, smoking occurs. In large diffusion flames, combustion product vortices can form around burning portions of the gas and shut off the supply of oxygen. This localized instability causes flame flickering, which can be accompanied by soot formation.

As in all combustion processes, an adequate fuel and air supply and good mixing are required to achieve complete combustion and minimize smoke formation. The various flare designs differ primarily in their accomplishment of mixing.

Steam-Assisted Flares

Steam-assisted flares are typically single burner tips that are elevated above ground level for safety reasons and burn the vented gas in what is essentially a diffusion flame. They account for the majority of the flares installed and are the predominant flare type found in refineries and chemical plants (U.S. EPA, 2011; API/ANSI, 2014; Kalcevic, 1980). They are less common at oil production sites because such facilities generally do not install steam boilers.

To ensure an adequate air supply and good mixing, this type of flare system injects steam into the combustion zone to promote turbulence for mixing and to induce air into the flame. Steam-assisted flares tend to be more effective than air-assisted flares at achieving smokeless burning because high-pressure steam can supply more momentum, which enhances ambient air entrainment and air-fuel mixing (Bader, 2011). Steam-assist flares have a lower capital cost (for similarly-sized flares, where steam is available) and a wider operating range than air-assist flares. Steam-assisted flares are the focus of the chapter and will be discussed in greater detail in Sections 1.2 through 1.4.

Air-Assisted Flares

Some flares use forced air to provide the combustion air and the mixing required for smokeless operation. These flares are often built with a spider-shaped burner (with many small gas orifices) located inside but near the top of a steel cylinder that may be two or more feet in diameter. However, air-assisted flares are available as small as 2 to 3 inches in diameter and as large as 7 to 10 feet in diameter (Aereon, 2014; Zeeco, 2016). Assist air is provided by a fan in the bottom of the flare that directs air through an annulus or tubes within the flare stack to the flare tip to improve mixing and reduce soot (smoke) formation. The amount of combustion air can be varied by varying the fan speed. The principal advantage of the air-assisted flares is that they can be used where steam is not available. One disadvantage

[1] Flares should not be confused with incinerators or oxidizers. An incinerator or oxidizer consists of a closed chamber in which the combustion takes place, providing more control over the combustion. For more information on incinerators and oxidizers, please review the Incinerators and Oxidizers chapter in the EPA Air Pollution Control Cost Manual.

of air-assisted flares is that they require electricity to power the blower/fan to provide the assist air.

Non-Assisted Flares

The non-assisted flare is just a flare tip without any auxiliary provision for enhancing the mixing of air into its flame. Its use is limited essentially to gas streams that have a low heat content and a low carbon/hydrogen ratio that burn readily without producing smoke (Shore, 1990). These streams require less air for complete combustion, have lower combustion temperatures that minimize cracking reactions, and are more resistant to cracking. Typically, high-pressure (15 pounds per square inch gauge (psig) or more) waste streams do not require any supplemental assist medium. (Bader, 2011)

Pressure-Assisted (and Multi-Point Pressure-Assisted) Flares

Pressure-assisted flares use the vent stream pressure to promote mixing at the burner tip. Several vendors now market proprietary, high pressure drop burner tip designs. If sufficient vent stream pressure is available, these flares can be applied to streams previously requiring steam or air assist for smokeless operation. Pressure-assisted flares may use burner arrangements that are either elevated or at ground level and typically use a "multi-point" design. Multi-point pressure-assisted flare designs have multiple burner heads which can be staged to operate based on the quantity of gas being released. The size, design, number, and group arrangement of the burner heads depend on the vent gas characteristics. Elevated multi-point flares are commonly used for off-shore oil and gas platforms. Ground-level multi-point flares are used in industrial applications, often as emergency release flares secondary to a steam- or air-assisted flare. Ground-level pressure-assisted flares are typically located in a remote area of the plant where there is plenty of space available and are surrounded by a radiant heat fence primarily for worker safety.

Other Flare Type Designations

In addition to designating flares by the method used to enhance mixing (assist type), flares may be classified by the height of the flare tip (i.e., ground or elevated), whether the flame is enclosed or not, whether there is a single or multi-point flare tip, and whether the flare is designed for permanent or temporary/portable installation. While each of these flare type designations will impact the design of the flare, these designations may be considered secondary to the assist type.

Enclosed ground flares have burner heads enclosed inside a shell that is internally insulated or shielded. This shell reduces noise, luminosity, and heat radiation and provides wind protection, which makes enclosed ground flares less susceptible to poor performance that can occur from open-flame flares during high winds. Enclosed ground flares are typically pressure-assisted or non-assisted flares. For some designs, the height of the shell must be adequate for creating enough draft to supply sufficient air for smokeless combustion and for dispersion of the thermal plume. A primary difference between an enclosed ground flare and a combustor is that an enclosed ground flare does not have a direct method to control the volume of air introduced in the combustion zone beyond the fixed stack height (i.e., no direct air supply or louvers to limit air supply within the flare enclosure). Enclosed ground flares always have the flare burners close to ground level and generally have less capacity than open

flares. They are commonly used to combust continuous, constant flow vent streams, although reliable and efficient operation can be attained over a wide range of design capacity. Enclosed ground flares are commonly found at landfills, anaerobic wastewater treatment plants and other remote facilities.

Temporary/mobile flares may be used in a variety of applications to control emissions from singular or limited events. Temporary flares are commonly used in the oil and gas industry during well completions and at industrial plants during specific maintenance activities or startup and shutdowns. Temporary flares are commonly trailer- or skid-mounted and may come with a knock-out drum as part of the mobile package.

1.1.2 Applicability

Flares can be used to control almost any VOC stream and can handle fluctuations in VOC concentration, flow rate, heating value, and inerts content. Flaring is appropriate for continuous, batch, and variable flow waste gas stream applications. The majority of chemical plants and refineries have existing flare systems designed to relieve emergency process upsets that require release of large volumes of gas. While these large diameter flares are designed to handle emergency releases, they can also be used to control vent streams from various process operations. Consideration of waste gas stream flow rate and available pressure must be given when considering tying in to an existing flare. Normally, emergency relief flare systems are operated at a small percentage of capacity and at negligible pressure. To consider the effect of controlling an additional vent stream, the maximum gas velocity, system pressure, and ground level heat radiation during an emergency release must be evaluated. If the vent stream pressure from the emission source is not sufficient to overcome the maximum flare system pressure during an emergency release event, then the safety implications of stopping the waste gas flow during an emergency event must be considered. If the pressure of the waste gas is sufficient to overcome the maximum pressure of the flare system, consideration must also be made of the impact of the ability of other vent streams to release to the flare when needed due to the added flow and pressure incurred by adding the new waste gas stream. If adding the waste gas stream causes the maximum velocity limits or ground level heat radiation limits to be exceeded or if it causes the flow of any vent stream discharging to the existing flare to be stopped during an emergency, then the addition of the waste gas stream to the existing flare system is not viable.

Many flare systems are currently operated in conjunction with baseload gas recovery systems. These systems recover and compress the waste VOC for use as a feedstock in other processes or as fuel. When baseload gas recovery systems are applied, the flare is used in a backup capacity and for emergency releases. Depending on the quantity of usable VOC that can be recovered, there can be a considerable economic advantage over operation of the flare system alone.

Streams containing high concentrations of halogenated or sulfur-containing compounds are not usually flared due to corrosion of the flare tip, formation of secondary pollutants (such as SO_2), and limitations on flaring these compounds in some EPA regulations. Some halogenated or sulfur-containing compounds can be removed from the waste gas stream using a halogen scrubber (to remove certain halogenated compounds) or amine scrubber (to remove hydrogen sulfide) prior to being sent to the flare. If these pollutants cannot be

ABUTEC™ Advanced Burner Technologies

ELIMINATE WORRY. EMBRACE RELIABILITY.

OIL & GAS

THE ABUTEC DIFFERENCE

ABUTEC offers the flexibility of a small company, with the resources of a large corporation. Because we customize units based on individual sites and customer needs, ABUTEC is able to offer the products and services that our partners require. ABUTEC has maintained our technology and expertise for the upstream oil & gas segment, while expanding our reach in the midstream oil & gas segment by offering solutions for rail, truck and now barge loading.

ABUTEC places safety and environmental stewardship as high priorities when we develop our products. Thanks to low heat radiation, zero noise pollution and high DRE, our customers are able to maintain "good neighbor" status while ensuring the safety of employees.

All this and more is why upstream and midstream sites throughout the U.S. turn to ABUTEC.

If you notice the following icons accompanying our products, take a look at the descriptions to understand ABUTEC's advantages:

PROTECT YOUR INFRASTRUCTURE

THE INDUSTRY STANDARD

SMOKELESS TECHNOLOGY

SMALL FOOTPRINT

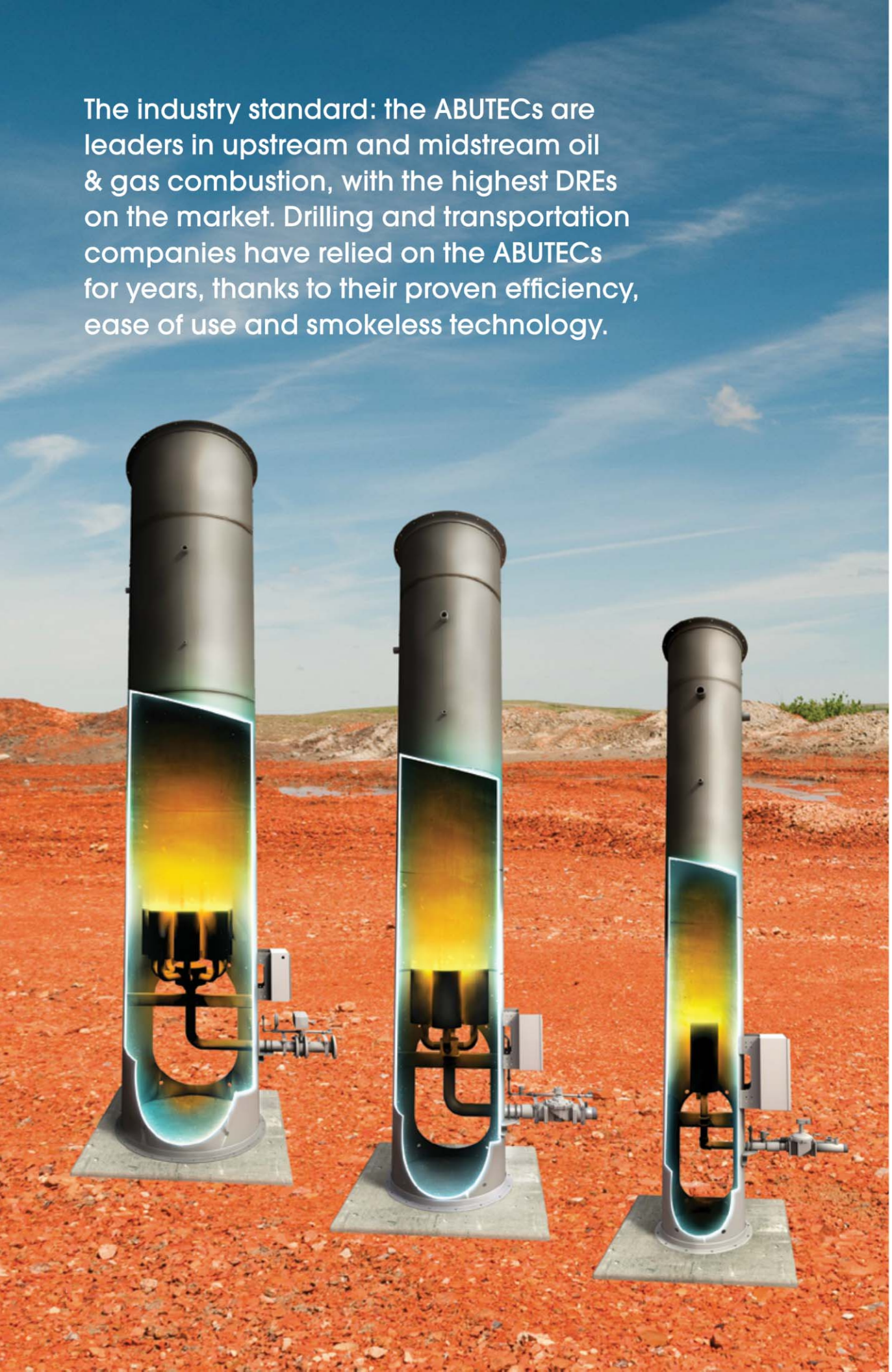
EASY TO INSTALL

AVAILABLE MONITORING

SCALABLE TO SITE SPECIFICATIONS

LOW NOx AND CO EMISSIONS

The industry standard: the ABUTECs are leaders in upstream and midstream oil & gas combustion, with the highest DREs on the market. Drilling and transportation companies have relied on the ABUTECs for years, thanks to their proven efficiency, ease of use and smokeless technology.



THE ABUTECS

SAFETY & RELIABILITY

ABUTEC 20

The ABUTEC 20 (SCUF MTF 0.7) is an efficient solution for smaller facilities looking for an emissions control device that meets all government regulations. Because it can be paired with other systems, the ABUTEC 20 is ideal for creating a scalable system that meets your sites specifications.

The ABUTEC 20 has a small footprint and is a reliable way to stay compliant and worry free, without the need for electricity at remote locations.

IDEAL FOR USE WITH

- Tank Battery Vapor Destruction
- Truck Loading
- Biogas Applications
- Landfill Gas Emergency Flares
- Any Low-Flow Waste Gas Stream Incineration

99%+
DESTRUCTION REMOVAL EFFICIENCY

KEY FEATURES OF THE ABUTEC 20

- Quad O Compliant Ready
- Local Service Team availability
- Low Capital and Operating Costs
- Meets 40 CFR 60.18 regulations
- Flexible and Scalable System
- 99%+ Destruction Efficiency (Independent 3rd party tested)
- Very High Turndown Ratio
- Scalable flow rates – from 0-20 MSCFD
- Inlet pressure as low as 2oz/in^2 and up to 120psig
- Stainless steel construction
- Pilot/Flame presence monitoring
- Capable of 2,388,400 BTU/hour
- TERO License from Three Affiliated Tribes
- Solar Panel functionality
- SCADA integration with control panel for remote monitoring


ABUTEC

ABUTEC 100

IDEAL FOR USE WITH

- Tank Battery Vapor Destruction
- Truck Loading
- Biogas Applications
- Landfill Gas Emergency Flares
- Any Low-Flow Waste Gas Stream Incineration

99%+
DESTRUCTION REMOVAL EFFICIENCY

Larger exploration and production sites that need a customizable solution for emission control can benefit from the ABUTEC 100. Because it meets all government regulations for vapor combustion, the ABUTEC 100 lets your facility remain compliant and in control of your emissions.

The reliability of the ABUTEC 100 is second to none, especially for remote locations without available electricity. It can be paired with other systems, giving your facility scalable combustion specific to your site. Additionally, the ABUTEC 100 is easy to install, and works in even the toughest environmental conditions.

KEY FEATURES OF THE ABUTEC 100

- Quad O Compliant Ready
- Local Service Team availability
- Low Capital and Operating Costs
- Meets 40 CFR 60.18 regulations
- Flexible & Scalable System
- 99%+ Destruction Efficiency (Independent 3rd party tested)
- Very High Turndown Ratio
- Scalable flow rates – from 20-100 MSCFD
- Inlet pressure as low as 2oz/in^2 and up to 120psig
- Stainless steel construction
- Pilot/Flame presence monitoring
- Capable of 9,212,400 BTU/hour
- TERO License from Three Affiliated Tribes
- Solar Panel functionality
- SCADA integration with control panel for remote monitoring

ABUTEC 200

The ABUTEC 200 was developed with the largest exploration and production facilities in mind. Able to function at high capacity in even the most remote locations, the ABUTEC 200 is a state-of-the-art combustion solution.

The ABUTEC 200 is a reliable method of combusting even the largest amounts of vapors, and can become part of a customized system tailored to fit your location. Additionally, the ABUTEC 200 is easy to install, and can handle the toughest environmental conditions.

IDEAL FOR USE WITH

- Tank Battery Vapor Destruction
- Truck Loading
- Biogas Applications
- Landfill Gas Emergency Flares
- Any Low-Flow Waste Gas Stream Incineration

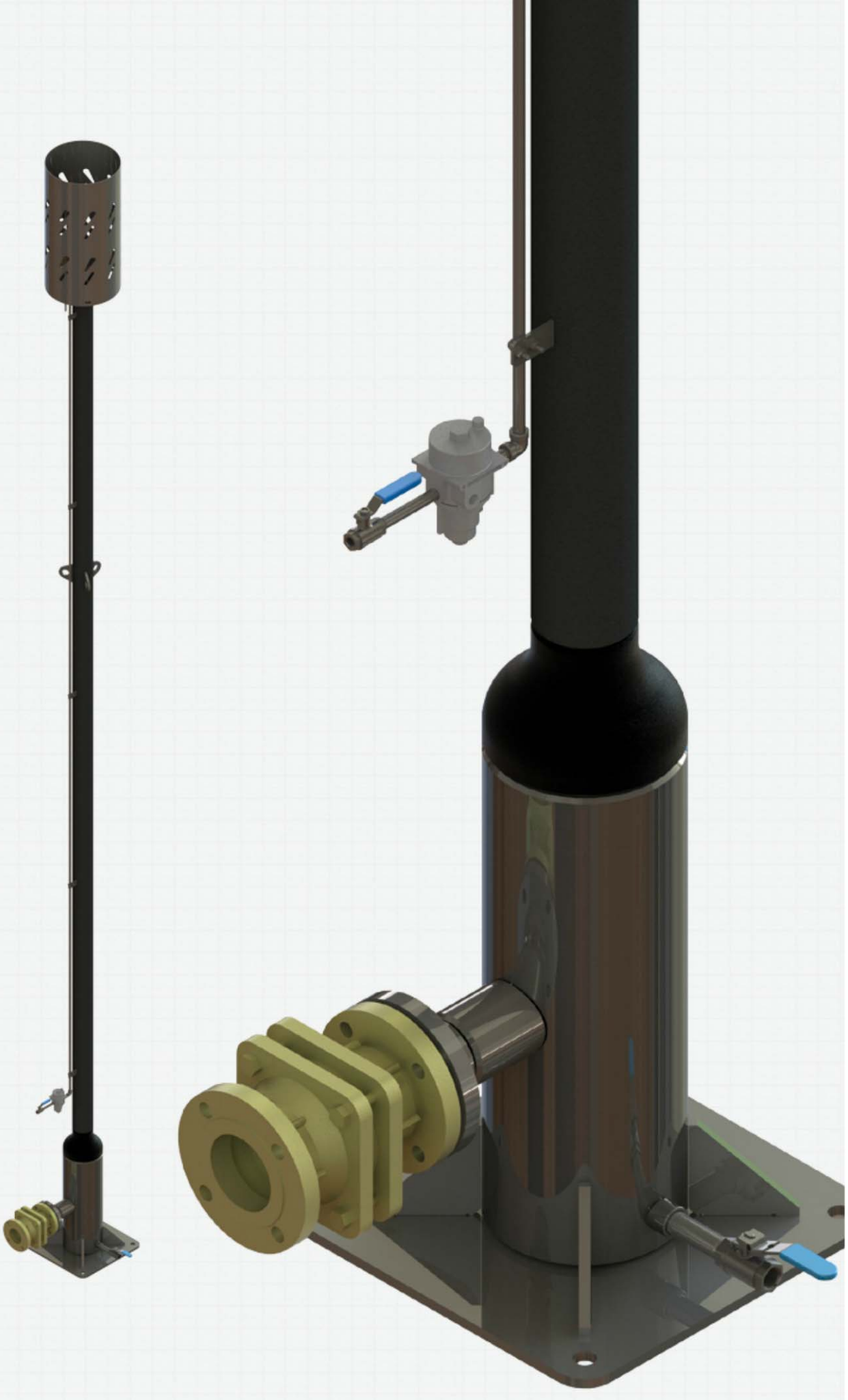
99%+
DESTRUCTION REMOVAL EFFICIENCY

KEY FEATURES OF THE ABUTEC 200

- Local Service Team availability
- Low Capital and Operating Costs
- Flexible & Scalable System
- 99%+ Destruction Efficiency (Independent 3rd party tested)
- Very High Turndown Ratio
- Scalable flow rates – from 100-200 MSCFD
- Inlet pressure as low as 2oz/in^2 and up to 120psig
- Stainless steel construction
- Pilot/Flame presence monitoring
- Capable of 18,424,800 BTU/hour
- TERO License from Three Affiliated Tribes
- Solar Panel functionality
- SCADA integration with control panel for remote monitoring

The newest solution: ABUTEC's high-pressure, high-flow HP units have become integral components in variable flow applications and emergency situations. High DREs and available customization ensure your site maintains function efficiently.

HIGH PRESSURE FLARES



ABUTEC HIGH PRESSURE 1500

IDEAL FOR USE WITH

- Multi-Pad Wells
- High Flow Applications
- Variable Flow Applications
- Pipeline Blowdown
- Flowback Operations
- Emergency Relief

98%
DESTRUCTION REMOVAL EFFICIENCY

ABUTEC's High Pressure (HP) units are industry-proven systems for combustion of high-pressure and high-flow produced gas.

KEY FEATURES OF THE HP 1500

- Combust produced gas (high pressure and high flow)
- 1.5 MMSCFD (HP 1500)
- Customizable flow rates available
- Advanced burner design allows for smokeless combustion for a wide range of flow rates
- Pilot/flame presence monitoring

ABUTEC HIGH PRESSURE 3000

ABUTEC's High Pressure (HP) units are industry-proven systems for combustion of high-pressure and high-flow produced gas.

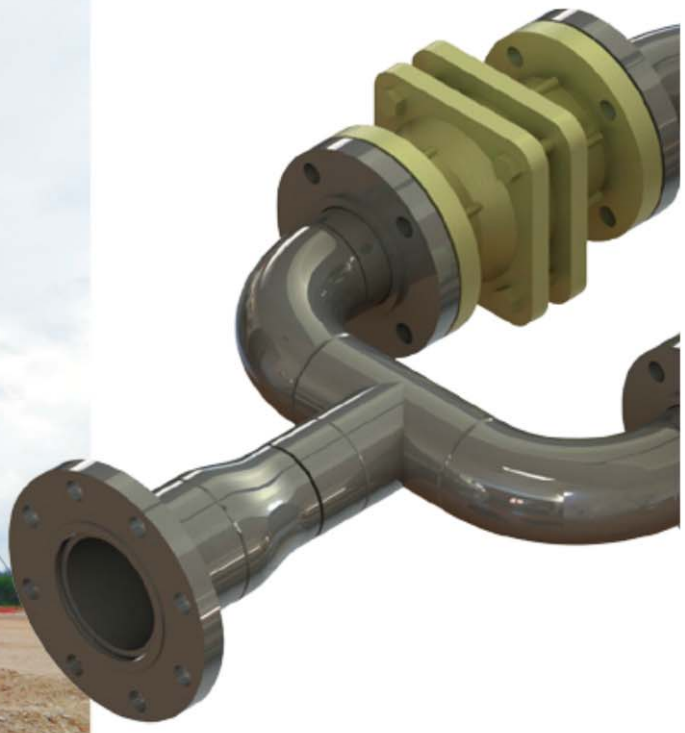
KEY FEATURES OF THE HP 3000

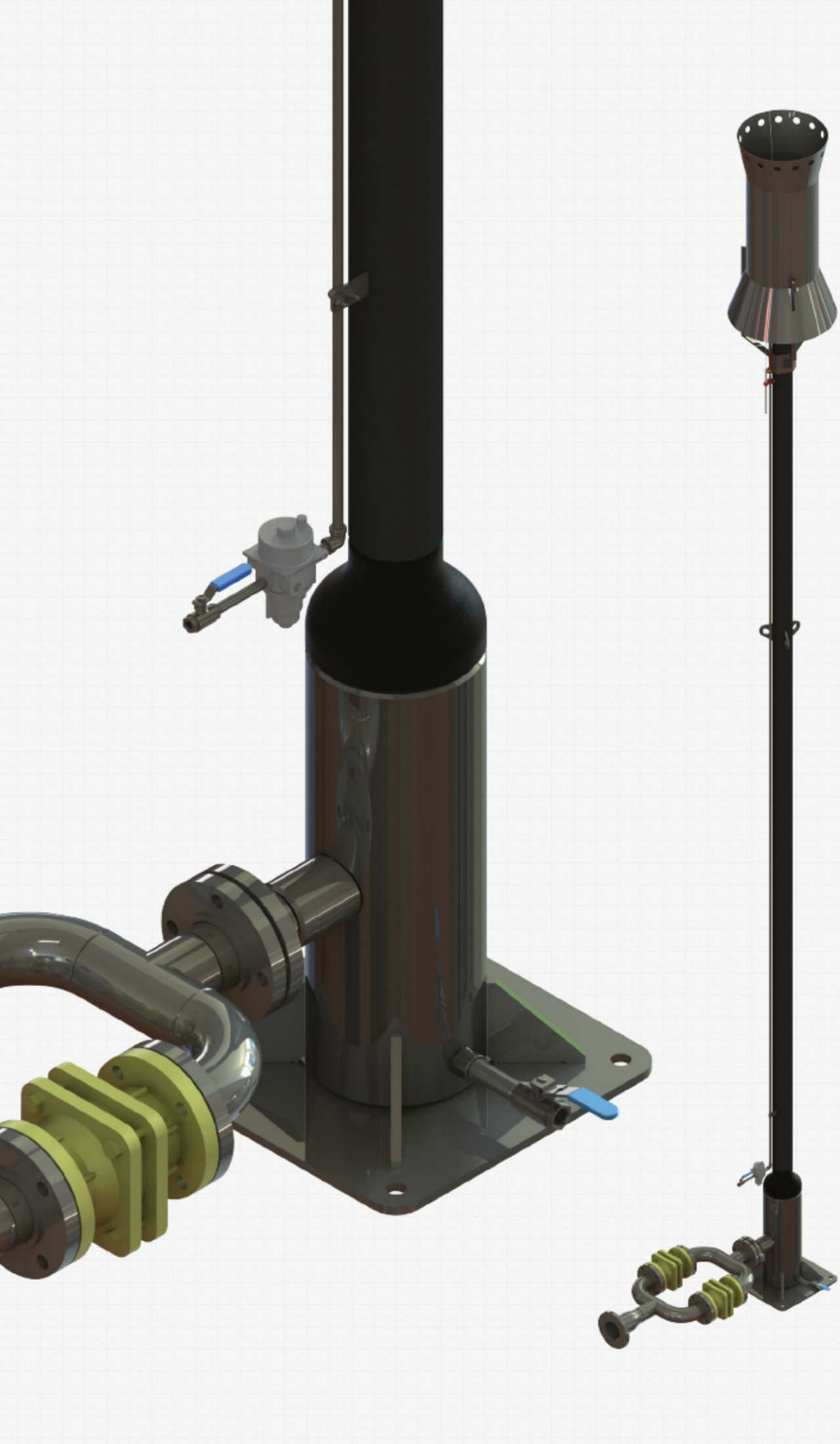
- Combust produced gas (high pressure and high flow)
- 3.0 MMSCFD (HP 3000)
- Customizable flow rates available
- Advanced burner design allows for smokeless combustion for a wide range of flow rates
- Pilot/flame presence monitoring

IDEAL FOR USE WITH

- Multi-Pad Wells
- High Flow Applications
- Variable Flow Applications
- Pipeline Blowdown
- Flowback Operations
- Emergency Relief

98%
DESTRUCTION REMOVAL EFFICIENCY



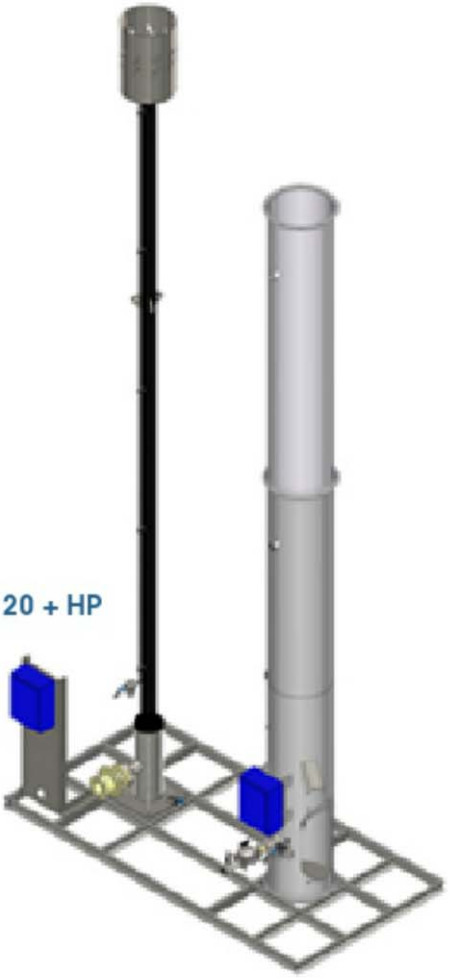


ABUTECS + HPS FOR DUAL FLOW SITES

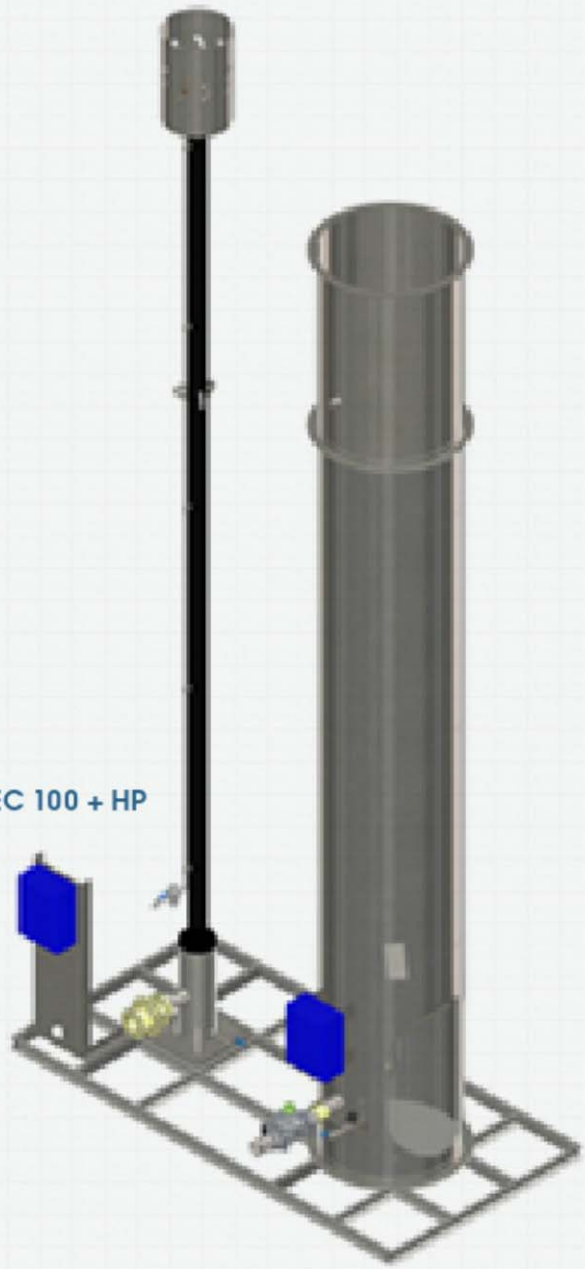
ABUTEC High Pressure units pair with the ABUTEC 20, 100 or 200 to give you the high/low pressure solutions your site needs.

The HP 1500 and HP 3000 can be installed as stand-alone units, paired with an ABUTEC unit on the same skid or included on the same site (although not on the same skid).

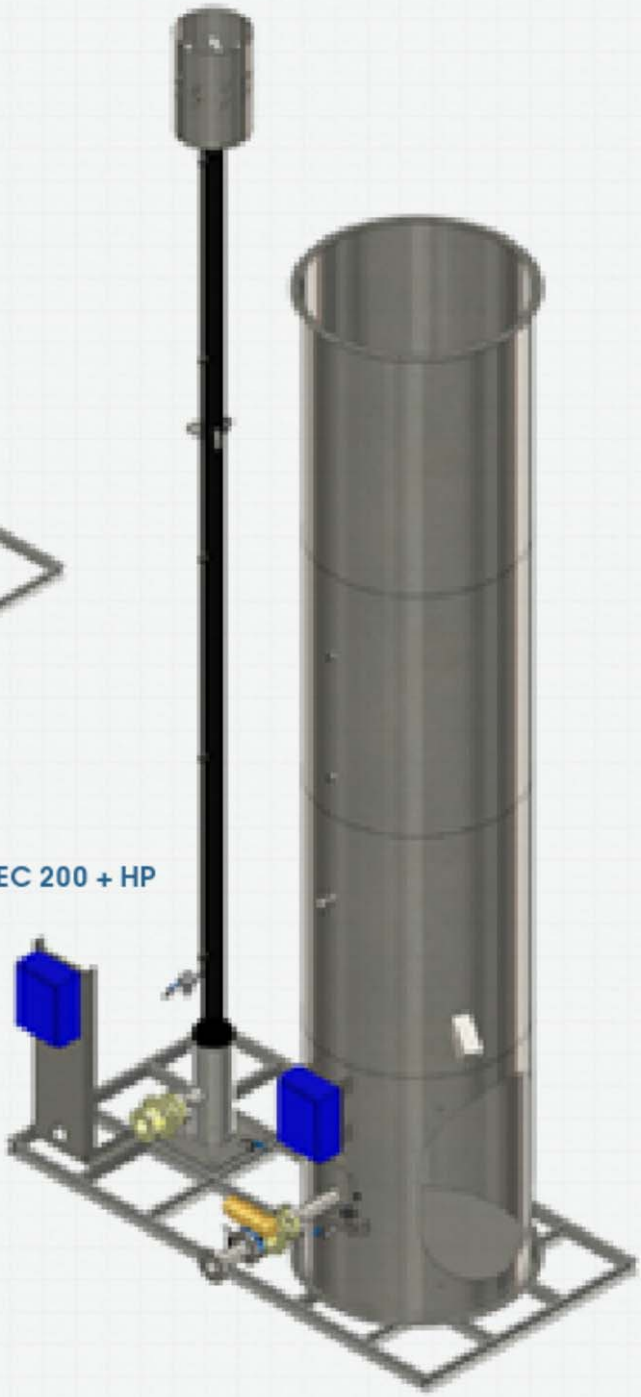
HP STAND-ALONE UNIT



ABUTEC 20 + HP



ABUTEC 100 + HP



ABUTEC 200 + HP

STATE OF MISSISSIPPI
Mississippi Department of Environmental Quality (MDEQ)

OIL PRODUCTION GENERAL PERMIT

TO CONSTRUCT/OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE

THIS CERTIFIES THAT

Facilities issued a certificate of coverage under this permit are granted permission to construct/operate air emissions equipment to comply with the emission limitations, monitoring requirements, and other conditions set forth herein. This permit is issued in accordance with the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et seq. Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD

Krystal Rudolph

AUTHORIZED SIGNATURE
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Issued: OCT 15 2019

Permit No.: MSOPGP

Expires: SEP 30 2024

SECTION 1.

A. INTRODUCTION

1. The Oil Production General Permit (OPGP) authorizes permit coverage recipients to construct and operate air emissions equipment in accordance with limitations, monitoring requirements and other conditions set forth in this permit. Facilities requesting coverage under this permit must operate under Standard Industrial Classification (SIC) 1311. These are establishments primarily engaged in operating oil field production facilities.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.11.)

B. APPLICABILITY AND COVERAGE

1. This permit covers the State of Mississippi.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.11.)

2. This permit may cover new and existing oil producing facilities operating in the State of Mississippi which fall under SIC 1311 and have air emissions associated with the construction and operation of synthetic minor oil production facilities equipped with control devices or operated in a manner approved by MDEQ for control of air emissions.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.11.)

3. Any oil well producing a gas stream containing hydrogen sulfide in excess of one (1) grain per 100 standard cubic feet is not eligible for this general permit.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.11.)

4. For onshore activities under Standard Industrial Classification (SIC) Major Group 13: Oil and Gas Extraction, *a facility* means, all of the pollutant-emitting activities included in Major Group 13 that are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant emitting activities shall be considered adjacent if they are located on the same surface site; or if they are located on surface sites that are located within ¼ mile of one another (measured from the center of the equipment on the surface site) and they share equipment. Shared equipment includes, but is not limited to, produced fluids storage tanks, phase separators, natural gas dehydrators or emissions control devices. A surface site is any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.B, 40 CFR 70.2 and 40 CFR 63.761)

5. This permit is for air pollution control purposes only.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.D.)

C. OBTAINING COVERAGE

1. Owners and/or operators desiring coverage associated with oil production activities under this permit must submit an Oil Production General Permit Notice of Intent (OPGP NOI) and other required information in accordance with the requirements of this permit.

   Upon review of a complete OPGP NOI, MDEQ staff may require additional information, recommend that coverage not be granted, or advise that an individual permit would be more appropriate. The MDEQ staff recommendations may be brought before the Mississippi Environmental Quality Permit Board (Permit Board) for review and consideration at a regularly scheduled meeting or at a special meeting at its discretion.

   Owners and/or operators are authorized to construct and operate sources of regulated air pollutants under the terms and conditions of this permit, only upon receipt of written notification of coverage by the Permit Board staff.

   Owners and/or operators may request pre-permit construction approval in accordance with 11 Miss. Admin. Code Pt. 2, R. 2.15.B, if they would like to commence construction of the facility before coverage is issued under this general permit. The pre-permit construction approval request must contain all the applicable information from 11 Miss. Admin. Code Pt. 2, R. 2.15.B and construction cannot commence until the request is approved by MDEQ. Further, commencement of operation may not occur until coverage under the General Permit has been issued and MDEQ has received certification of construction per Condition 1.F.14. The Permit Board may deny the pre-permit construction approval application or revoke an existing pre-permit construction approval for any reason it deems valid including objection(s) from the public. Denial/revocation of the pre-permit construction approval application shall have no bearing on the issuance or denial of permit coverage.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.11. and 11 Miss. Admin. Code Pt. 2, R. 2.15.B.)

2. The Permit Board may require any coverage recipient to apply for and obtain an individual permit. Any interested person may petition the Permit Board to take action under this paragraph. The Permit Board may require any coverage recipient to apply for an individual permit only if the coverage recipient has been notified in writing. Such notice shall include reasons for the Permit Board's decision, an application form and a filing deadline. The Permit Board may grant additional time at its discretion, upon request. If a coverage recipient fails to submit a requested application in a timely manner, coverage under this permit will automatically terminate at the end of the day specified for application submittal.

   Any coverage recipient may request to be excluded from permit coverage by applying for an individual permit. The applicant shall submit an individual application to construct and operate air emission equipment.

   Coverage under this permit is automatically terminated on the issuance date of the alternative individual air permit. When the request for an alternative individual or general

permit is denied, coverage under this permit continues unless terminated by the Permit Board.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.11.)

3. Continued coverage under this permit will be allowed until the effective date of the below permit actions. Once the Oil Production General Permit is reissued, active coverage recipients will receive a Recoverage Form with a Letter of Instruction. If a coverage recipient wishes to be covered by the reissued Oil Production General Permit, the Recoverage Form must be completed and returned to the MDEQ in accordance with the provisions of the Letter of Instruction. Permit coverage will remain effective until the earliest of:

    a. Recoverage under the reissued general permit;

    b. Submittal of a Request for Termination Form and receipt of written concurrence;

    c. Issuance of an alternative individual air permit; or

    d. A formal permit decision by the Permit Board to not reissue the general permit, at which time the coverage recipient must seek coverage under an alternative general or individual air permit.

    Six (6) months after the Oil Production General Permit reissuance, no coverage shall remain in effect under the previous general permit unless a complete Recoverage Form and other required submittals have been received by MDEQ. If the coverage recipient's potential to emit, not considering this permit's synthetic minor restrictions, drops below the 100 tons per year (tpy) threshold, then the recipient shall submit a Request for Termination Form to terminate the coverage.

    (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.11.)

D. NOTICE OF INTENT SUBMITTAL REQUIREMENTS

1. Owners and/or operators desiring coverage for emissions under this general permit shall submit an OPGP NOI. The OPGP NOI can be found in the OPGP Forms Package, which can be obtained from MDEQ or from the MDEQ website at www.mdeq.ms.gov.

    (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.11.)

2. The following items are required with submittal of the OPGP NOI:

    a. A United States Geological Survey (USGS) quadrangle map or photocopy, extending at least a mile beyond the facility's property boundaries with the site location outlined or highlighted. This map should include any adjoining properties including buildings, homes etc with all appropriate distances labeled and measured to the nearest residential or recreational area. Also included in this map should be

any facilities within a 1-mile radius that are under common control with appropriate distances labeled,

b. A process equipment layout and flow diagram,

c. A representative gas analysis (including date and location of sample and analysis), by which potential emissions are calculated,

d. A complete air emissions inventory of uncontrolled and controlled potential emission calculations from each proposed stationary source of criteria or Hazardous Air Pollutants (HAP) emissions, including all supporting documentation, and

e. The OPGP Compliance Plan required in Condition 5.5.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.11.)

3. For initial coverage, re-coverage, or a modification in accordance with Condition 1.H.4., a facility shall be required to submit as part of the OPGP NOI a proof of publication of the 30-day Public Notice in a daily or weekly newspaper of local distribution and proof that the facility sent the required package to the local library (an example of the public notice and library letter are contained in the OPGP Forms Package) as part of the OPGP NOI. The facility must also send the OPGP, OPGP NOI and Public Notice to the local library for public review for 30 days, concurrently with the 30-day public comment period.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.11.)

4. The complete and appropriately signed OPGP NOI Forms must be submitted to:

   Chief, Environmental Permits Division
   Mississippi Department of Environmental Quality
   Office of Pollution Control
   P.O. Box 2261
   Jackson, Mississippi 39225

   For priority or overnight deliveries, the physical address is:

   515 East Amite Street
   Jackson, Mississippi 39201

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

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.11.)

E. SITING CRITERIA SUBMITTAL REQUIREMENTS

1. No coverage for the construction or relocation of equipment which will cause the issuance of air contaminants shall be issued when said equipment cannot comply with buffer zone requirements as follows:

   a. All sources of air emissions must be at least 150 feet from the nearest residential or recreational area.

   b. Where buffer zone requirements cannot be met, the Permit Board will consider requests for exceptions to, or variances from, these requirements upon the applicant's submittal of sufficient proof that affected property owners within the subject buffer zone have had timely and sufficient notice of the proposed stationary source. Any comments received as a result of such notice shall be considered prior to action upon any request for exceptions to, or variances from, the buffer zone requirements.

   c. The Permit Board may establish buffer zone requirements for facilities not included in 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(15)(a)-(f) considering factors including but not limited to, the type of emissions, the quantity of emissions, the physical characteristics of the stationary source (such as the location) and such other factors that the Permit Board deems appropriate to protect human health, welfare, or the environment.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(14).)

F. GENERAL REQUIREMENTS

1. Persons who emit air emissions associated with the construction and/or operation of an oil production facility without an appropriate air permit are in violation of the Mississippi Air and Water Pollution Control Law (Miss. Code Ann. §49-17-29(2)(b)).

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.11.)

2. This permit is a federally enforceable permit to construct and operate a synthetic minor source as described in 11 Miss. Admin. Code Pt. 2, R. 2.4.C. and D. Facilities not requiring a permit under these provisions are not eligible for coverage under this general permit.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.4.C. and D.)

3. Any activities not identified in the OPGP NOI are not authorized by this permit.

   (Ref.: Miss. Code Ann. 49-17-29 1.b)

4. The knowing submittal of an OPGP NOI with false information may serve as the basis for the Permit Board to void a coverage issued pursuant thereto and may subject the applicant to penalties for constructing or operating without a valid coverage.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(5).)

5. The issuance of a coverage does not release the permittee from liability for constructing or operating air emissions equipment in violation of any applicable statute, rule, or regulation of state or federal environmental authorities.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(7).)

6. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit unless halting or reducing activity would create an imminent and substantial endangerment threatening the public health and safety of the lives and property of the people of this state.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(a).)

7. The issuance of a coverage does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(c).)

8. The coverage recipient shall allow the Mississippi Department of Environmental Quality Office of Pollution Control and the Mississippi Environmental Quality Permit Board and/or their authorized representatives, upon the presentation of credentials:

   a. To enter at reasonable times upon the coverage recipient's premises where an air emission source is located or in which any records are required to be kept under the terms and conditions of this permit, and

   b. To have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any air contaminants.

   (Ref.: Miss. Code Ann. §49-17-21)

9. Except for data determined to be confidential under the Mississippi Air & Water Pollution Control Law, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Mississippi Department of Environmental Quality Office of Pollution Control.

   (Ref.: Miss. Code Ann. §49-17-39)

10. Nothing herein contained shall be construed as releasing the permittee from any liability for constructing or operating air emissions equipment in violation of any applicable statute, rule or regulation of state or federal environmental authorities.

    (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(7).)

11. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstances, is challenged or held invalid, the validity of the remaining permit provisions and/or portions thereof or their application to other persons or sets of circumstances, shall not be affected thereby.

    (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.D(7).)

12. Except as otherwise specified herein, this permit does not authorize a modification as defined in Regulation 11 Miss. Admin. Code Pt. 2, Ch.2., "Permit Regulations for the Construction and/or Operation of Air Emission Equipment." A modification may require modification of the coverage or an alternative air individual construction permit and/or operating permit. Modification is defined as "Any physical change in or change in the method of operation of a facility which increases the actual emissions or the potential uncontrolled emissions of any air pollutant subject to regulation under the Federal Act emitted into the atmosphere by that facility or which results in the emission of any air pollutant subject to regulation under the Federal Act into the atmosphere not previously emitted. A physical change or change in the method of operation shall not include:

    a. Routine maintenance, repair, and replacement;

    b. Use of an alternative fuel or raw material by reason of an order under Sections 2(a) and (b) of the Federal Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;

    c. Use of an alternative fuel by reason of an order or rule under Section 125 of the Federal Act;

    d. Use of an alternative fuel or raw material by a stationary source which:

        (1) The source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.166; or

        (2) The source is approved to use under any permit issued under 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.66;

    e. An increase in the hours of operation or in the production rate unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Subpart I or 40 CFR 51.166; or

    f. Any change in ownership of the stationary source.

    (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.C(15).)

13. The general permit may be modified, revoked, or terminated for cause.

    (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(b).)

14. Upon the completion of construction or installation of an approved stationary source or modification, and prior to commencing operation, the applicant shall notify the Permit Board that construction or installation was performed in accordance with the approved plans and specifications on file with the Permit Board.

    (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(1) and (3).)

15. The Permit Board shall be promptly notified in writing of any change in construction from the previously approved plans and specifications or permit. If the Permit Board determines the changes are substantial, it may require the submission of a new application to construct with "as built" plans and specifications. Notwithstanding any provision herein to the contrary, the acceptance of an "as built" application shall not constitute a waiver of the right to seek compliance penalties pursuant to State Law.

    (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(2).)

G. GENERAL OPERATING CONDITIONS

1. Should the Executive Director of the Mississippi Department of Environmental Quality declare an Air Pollution Emergency Episode, the permittee will be required to operate in accordance with the permittee's previously approved Emissions Reduction Schedule or, in the absence of an approved schedule, with the appropriate requirements specified in Regulation, 11 Miss. Admin. Code Pt. 2, Chapter 3 "Regulations for the Prevention of Air Pollution Emergency Episodes" for the level of emergency declared.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.10.)

2. Except as otherwise specified herein, the permittee shall be subject to the following provisions with respect to upsets, startups, and shutdowns.

   a. Upsets

      (1) For an upset defined in 11 Miss. Admin. Code Pt. 2, R. 1.2., the Commission may pursue an enforcement action for noncompliance with an emission standard or other requirement of an applicable rule, regulation, or permit. In determining whether to pursue enforcement action, and/or the appropriate enforcement action to take, the Commission may consider whether the source has demonstrated through properly signed contemporaneous operating logs or other relevant evidence the following:

(i) An upset occurred and that the source can identify the cause(s) of the upset;

(ii) The source was at the time being properly operated;

(iii) During the upset the source took all reasonable steps to minimize levels of emissions that exceeded the emission standard or other requirement of an applicable rule, regulation, or permit;

(iv) That within 5 working days of the time the upset began, the source submitted a written report to the Department describing the upset, the steps taken to mitigate excess emissions or any other noncompliance, and the corrective actions taken and;

(v) That as soon as practicable but no later than 24 hours of becoming aware of an upset that caused an immediate adverse impact to human health or the environment beyond the source boundary or caused a general nuisance to the public, the source provided notification to the Department.

(2) In any enforcement proceeding by the Commission, the source seeking to establish the occurrence of an upset has the burden of proof.

(3) This provision is in addition to any upset provision contained in any applicable requirement.

(4) These upset provisions apply only to enforcement actions by the Commission and are not intended to prohibit EPA or third party enforcement actions.

b. Startups and Shutdowns (as defined by 11 Miss. Admin. Code Pt. 2, R. 1.2.)

(1) Startups and shutdowns are part of normal source operation. Emission limitations apply during startups and shutdowns unless source specific emission limitations or work practice standards for startups and shutdowns are defined by an applicable rule, regulation, or permit.

(2) Where the source is unable to comply with existing emission limitations established under the State Implementation Plan (SIP) and defined in this regulation, 11 Mississippi Administrative Code, Part 2, Chapter 1, the Department will consider establishing source specific emission limitations or work practice standards for startups and shutdowns. Source specific emission limitations or work practice standards established for startups and shutdowns are subject to the requirements prescribed in 11 Miss. Admin. Code Pt. 2, R. 1.10.B(2)(a) through (e).

(3) Where an upset as defined in Rule 1.2 occurs during startup or shutdown, see

the upset requirements above.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.10.)

3. Compliance Testing: Regarding compliance testing:

   a. The results of any emissions sampling and analysis shall be expressed both in units consistent with the standards set forth in any Applicable Rules and Regulations or this permit and in units of mass per time.

   b. Compliance testing will be performed at the expense of the permittee.

   c. Each emission sampling and analysis report shall include but not be limited to the following:

      (1) Detailed description of testing procedures;

      (2) Sample calculation(s);

      (3) Results; and

      (4) Comparison of results to all Applicable Rules and Regulations and to emission limitations in the permit.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.6.B(3), (4), and (6).)

H. COVERAGE RENEWAL / MODIFICATION / TRANSFER / TERMINATION

1. Coverage under this general permit may be modified, revoked, or terminated for cause. Sufficient cause for a coverage to be reopened shall exist when an air emissions stationary source becomes subject to Title V. The filing of a request by the permittee for a coverage modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(b).)

2. After notice and opportunity for a hearing, coverage may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to:

   a. Persistent violation of any terms or conditions of this permit.

   b. Obtaining this coverage by misrepresentation or failure to disclose fully all relevant facts; or

   c. A change in federal, state, or local laws or regulations that require either a temporary or permanent reduction or elimination of previously authorized air emission.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.C.)

3. This coverage may only be transferred upon approval of the Mississippi Environmental Quality Permit Board.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.16.B.)

4. Existing synthetic minor facilities covered under this general permit that propose facility expansion and/or modifications that will cause an increase in the uncontrolled potential emissions of air pollutants listed in the most recent OPGP NOI submitted to MDEQ, but remain below the criteria threshold limitations of Condition 3.1 must submit an updated OPGP NOI and Compliance Plan to the Environmental Permits Division of the proposed changes in operations of the facility. A public notice is required in accordance with Condition 1.D.3. MDEQ approval and modification of the coverage are required before the coverage recipient is permitted to make the change.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.C(15). and 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

5. Existing synthetic minor facilities covered under this general permit that propose facility expansion and/or modification that do not result in an increase in the uncontrolled potential emissions of air pollutants listed in the most recent OPGP NOI submitted to MDEQ, and remain below the criteria threshold limitations of Condition 3.1 may make the proposed changes without approval from MDEQ. A Public Notice is not required for this permitting action.

   For such changes, the coverage recipient must notify MDEQ within 10 days of the expansion and/or modification and include an updated OPGP Compliance Plan if the expansion and/or modification causes the most recent OPGP Compliance Plan on file to change. The notification shall contain the details of the expansion and/or modification. The notification shall include, but is not limited to, a description of the expansion and/or modification, the facility-wide uncontrolled and controlled potential emissions following the change, and a list of all equipment affected by the change.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.C(15). and 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

6. The commencement of operation associated with an expansion and/or modification, covered under Condition 1.H.4 above, may not occur until MDEQ has received certification of construction per Condition 1.F.14.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(1) and (3).)

SECTION 2
EMISSION POINT DESCRIPTION

A detailed emission point list and description(s) are found in the OPGP NOI and OPGP Compliance Plan submitted to MDEQ

SECTION 3
EMISSION LIMITATIONS AND STANDARDS

Emission Point	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limitation/Standard
Facility-Wide	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).	3.1	PM_{10}	95.0 tpy (synthetic minor limit)
			SO_2	95.0 tpy (synthetic minor limit)
			NOx	95.0 tpy (synthetic minor limit)
			CO	95.0 tpy (synthetic minor limit)
			VOC	95.0 tpy (synthetic minor limit)
			Total HAP	24.0 tpy (synthetic minor limit)
			Any Individual HAP	9.5 tpy (synthetic minor limit)
	11 Miss. Admin. Code Pt. 2, R. 1.3.A.	3.2	Opacity	40%
	11 Miss Admin Code Pt. 2, R. 1.3 B.	3.3	Opacity	Equivalent Opacity
	11 Miss. Admin. Code Pt. 2, R. 1.3. D(1)(b).	3.4	PM	$E=0.8808*I^{-0.1667}$
	11 Miss. Admin. Code Pt. 2, R. 1.3. D(1)(a).	3.5	PM	0.6 lb/MMBTU
	11 Miss. Admin. Code Pt. 2, R. 1.4.A(1)	3.6	SO_2	4.8 lbs/MMBTU
	11 Miss. Admin. Code Pt. 2, R. 1.4.B(2).	3.7	H_2S	One (1) grain per 100 standard cubic feet
	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).	3.8	Fuel	Combust only produced gas, propane, natural gas, and diesel (synthetic minor limit)
		3.9	All Pollutants	Minimizing Pollutants
		3.10	Gas	(synthetic minor limit)
Flare	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).	3.11	Control Efficiency	Flare Operating Requirements (synthetic minor limit)

Vessels	NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR Part 60, Subpart Kb 40 CFR Part 60.110b(a)-(e)	3.12	VOC	Applicability
Engines	NSPS for Stationary Compression Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart IIII 40 CFR Part 60.4200	3.13	NO_X, CO, and VOC	Applicability
	NSPS for Stationary Spark Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart JJJJ 40 CFR Part 60.4230	3.14	NO_X, CO, and VOC	Applicability
	NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 63, Subpart ZZZZ 40 CFR Part 63.6580; 40 CFR Part 63.6585(a) and (c)	3.15	HAPs	Applicability
Vessels	NSPS for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced After August 23, 2011, and on or before September 18, 2015, Subpart OOOO 40 CFR Part 60.5365(e)	3.16	VOC	Applicability
Vessels, Fugitive Emission, Pneumatic Controllers, and Pneumatic Pumps	NSPS for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015, Subpart OOOOa 40 CFR Part 60.5365a(a)(e)(f)(h) and (i)	3.17	VOC and SO_2	Applicability

3.1 For the entire facility, the permittee shall limit the emissions of each criteria pollutant and hazardous air pollutants (HAPs) from the facility (or grouping of "contiguous or adjacent" facilities) to less than the following amounts, in tons per year for each consecutive 12-month period on a rolling basis:

Pollutant	Emissions (tpy)
PM_{10}	95.0
SO_2	95.0
NO_X	95.0
CO	95.0
VOC	95.0
Total HAPs	24.0

Any Individual HAP	9.5

The above limitations shall include aggregate emissions from all sources at the facility.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.2 For the entire facility, except as otherwise specified or limited herein, the permittee shall not cause, permit, or allow the emission of smoke from a point source into the open air from any manufacturing, industrial, commercial or waste disposal process which exceeds forty (40) percent opacity. Startup operations may produce emissions which exceed 40% opacity for up to fifteen (15) minutes per startup in any one hour and not to exceed three (3) startups per stack in any twenty-four (24) hour period.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.A.)

3.3 For the entire facility, except as otherwise specified or limited herein, the permittee shall not cause, allow, or permit the discharge into the ambient air from any point source or emissions, any air contaminant of such opacity as to obscure an observer's view to a degree in excess of 40% opacity, equivalent to that provided in Condition 3.2. This shall not apply to vision obscuration caused by uncombined water droplets.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.B.)

3.4 For the entire facility, the permittee shall not have particulate emissions from fossil fuel burning installations of greater than 10 MMBTU/hr heat input that exceeds the emission rate as determined by the relationship:

$$E = 0.8808 * I^{-0.1667}$$

where E is the emission rate in pounds per million BTU per hour heat input and I is the heat input in millions of BTU per hour.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3. D(1)(b).)

3.5 For the entire facility, the permittee shall not have particulate emissions from fossil fuel burning installations of less than 10 MMBTU/hr heat input that exceeds 0.6 lb/MMBTU.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3. D(1)(a).)

3.6 For the entire facility, the permittee shall not have sulfur oxides emissions from any fuel burning installation in which the fuel is burned primarily to produce heat or power by indirect heat transfer that exceeds 4.8 pounds (measured as sulfur dioxide) per million BTU heat input.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).)

3.7 For the entire facility, the permittee shall not permit the emission of any gas stream which contains hydrogen sulfide (H_2S) in excess of one grain per 100 standard cubic feet. Gas streams containing hydrogen sulfide in excess of one grain per 100 standard cubic feet shall be incinerated at temperatures of no less than 1600 °F for a period of no less than 0.5 seconds or processed in such a manner which is equivalent to or more effective for the removal of hydrogen sulfide.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.4.B(2).)

3.8 For the entire facility, the permittee shall only combust produced gas, natural gas, propane, or diesel in all combustion units operating at the facility.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.9 For the entire facility, the permittee shall operate all air emission equipment as efficiently as possible in order to minimize the emissions of air pollutants. Furthermore, the permittee shall perform routine maintenance on all air emissions equipment such that the equipment may be operated in an efficient manner.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.10 For the entire facility, the permittee shall route all produced gas to the flare for control of emissions or to a pipeline for product recovery and/or sale. For those permittees requesting a federally enforceable control requirement for tanks, the emissions from the crude oil and/or condensate tanks included in the OPGP NOI and public notice shall be routed to the flare for control or to a pipeline for product recovery and/or sale. Any tanks not requesting a federally enforceable requirement in the OPGP NOI or included in the Public Notice that route emissions to the flare may not take credit for the 98% destruction efficiency of the flare.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.11 For flares required by Condition 3.10, the permittee shall demonstrate a control efficiency of at least 98% by operating the flare according to the requirements of 40 CFR 60.18(b), Subpart A, and the requirements specified in paragraphs (a) through (e) below:

a. The flare shall be operated at all times when emissions may be vented to it.

b. The flare shall be operated and maintained according to the manufacturer's recommendations.

c. The flare shall be operated with no visible emissions as determined by EPA Method 22, except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours.

d. The permittee shall maintain a flare pilot flame or auto-igniter system at all times when emissions may be vented to the flare.

e. The flare shall only be used with a combustion gas mixture whose net heating value is 300 BTU/scf or greater if the flare is air or steam-assisted. If the flare is non-assisted, the flare shall only be used with a combustion gas mixture whose net heating value is 200 BTU/scf or greater.

For any tank subject to the control requirement of Subpart OOOOa, the permittee shall only use a continuous flare pilot flame in accordance with Subpart OOOOa.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.12 The permittee shall comply with all applicable requirements of the Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR Part 60, Subpart Kb.

(Ref.: 40 CFR 60.110b)

3.13 The permittee shall comply with all applicable requirements of the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart IIII.

(Ref.: 40 CFR 60.4200)

3.14 The permittee shall comply with all applicable requirements of the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart JJJJ.

(Ref.: 40 CFR 60.4230)

3.15 The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR Part 63, Subpart ZZZZ.

(Ref.: 40 CFR 63.6580 and 40 CFR 63.6585(a) and (c))

3.16 The permittee shall comply with all applicable requirements of the Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for

which Construction, Modification or Reconstruction Commenced After August 23, 2011, and on or before September 18, 2015, 40 CFR Part 60 Subpart OOOO.

(Ref: 40 CFR 60.5365(e))

3.17 The permittee shall comply with all applicable requirements of the Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015, 40 CFR Part 60, Subpart OOOOa.

(Ref.: 40 CFR 60.5365a(a), (e), (f), (h), and (i))

SECTION 4
WORK PRACTICE STANDARDS

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SECTION 5
MONITORING AND RECORDKEEPING REQUIREMENTS

Emission Point	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Monitoring/Recordkeeping Requirement
Facility-Wide	11 Miss. Admin. Code Pt. 2, R. 2.9.	5.1	Recordkeeping	Maintain records for a minimum of 5 years.
	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	5.2	Fuel	Keep records of type and quantity of fuels combusted
Well	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	5.3	Gas Analysis	Conduct gas analysis
Facility-Wide	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	5.4	VOC, NO_X, CO, SO_2, PM_{10}	Monitoring and recordkeeping
			HAPs	
			Fuel Combusted	
			Produced Oil	
			Condensate	
			Produced Water	
			Produced Gas	
			Flared Gas	
		5.5	OPGP Compliance Plan	Recordkeeping
Flare	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	5.6	Flare Operations	Monitoring and recordkeeping
		5.7	Method 22	

5.1 The permittee shall retain all required records, monitoring data, supporting information and reports for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-chart recordings or other data for continuous monitoring instrumentation, and copies of all reports required by this permit. Copies of such records shall be submitted to MDEQ as required by Applicable Rules and Regulations

or this permit upon request. These records shall be made readily available upon inspection or request by the Office of Pollution Control.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.9.)

5.2 For the entire facility, the permittee shall monitor and record the type and quantity of each fuel used in each stationary combustion source. Fuel quality data shall be collected and maintained with sufficient detail to support the emission calculations required in Condition 5.4(a)(3).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.3 The permittee shall conduct a field gas analysis of the produced gas routed to the flare. The initial gas analysis shall be performed within ninety (90) days of initial startup of a new facility, or within ninety (90) days of initial issuance of coverage to an existing facility.

If a change is made at the facility, which causes the most recent gas analysis to no longer be representative, e.g., a well is completed, an existing well is recompleted, etc., or gas/oil processing equipment is changed then the facility shall perform a gas analysis within ninety (90) days of the change.

Subsequent gas analyses shall be performed annually, not to exceed 14 months from the previous analysis. Each gas analysis shall include the following properties: hydrogen sulfide concentration, sulfur content, methane concentration (by volume), gross and net heating value, molecular weight, specific gravity, and speciated VOC components (minimally to C6+).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.4 For the entire facility, in order to demonstrate compliance with the limitations specified in Section 3, the permittee shall monitor and record the following:

a. The PM_{10}, SO_2, NO_x, CO, VOC, total HAPs, and individual HAP emissions, in tons, on a monthly basis and for each consecutive 12-month period on a rolling basis. Emissions data shall calculated utilizing gas flow measurement, gas analysis, and any other relevant information. The calculations shall be performed according to paragraphs (1) through (5) below.

(1) VOC and HAP emissions from truck loading operations shall be calculated using emission factors from the most recent version of EPA's AP-42 Section 5.2.

(2) PM_{10}, SO_2, NO_x, CO, VOC and HAP emissions from any stationary external combustion sources, (excluding the flare) shall be calculated using specific

manufacturer's guaranteed rates. If manufacturer's guaranteed rates are not available, then applicable emission factors from EPA's AP-42 Section 1 shall be utilized.

(3) PM_{10}, SO_2, NO_x, CO, VOC and HAP emissions from any stationary reciprocating internal combustion sources shall be calculated using specific manufacturer's guaranteed rates, performance stack test data, or applicable NSPS/NESHAP emission standards. If the above options are not available, then applicable emission factors from EPA's AP-42 Section 3 shall be utilized.

(4) Fugitive VOC and HAP emissions from piping and components shall be calculated using the most recent gas analysis and emission factors from Table W-1A to Subpart W of Part 98. The permittee may request approval from MDEQ to use another methodology for calculating fugitive emissions. The alternate methodology and MDEQ approval shall be maintained in the OPGP Compliance Plan required by Condition 5.5.

(5) VOC and HAP emissions from flaring operations shall be calculated using the most recent gas analysis, the total metered gas flow to the flare, mass balance calculations and a 98% destruction efficiency for those periods when the flare is in compliance with Conditions 3.10 and 3.11. For those periods when the flare is not in compliance with Conditions 3.10 and 3.11, the permittee must use the emissions reported in the deviation report required by Condition 6.1.

In the event that only the produced gas is metered, sampled and analyzed, and the tank gas is not metered to the flare, then VOC and HAP emissions from tanks contributing to the flared emissions shall be determined using the American Petroleum Institute's E&P Tanks. Flash gas production may also be determined by using laboratory measurement of the Gas-Oil-Ratio from a pressurized liquid sample or a process simulator computer program such as HYSIM, HYSYS or PROMAX. Tank working and breathing losses may also be estimated using EPA AP-42 procedures. The permittee may request approval from MDEQ to use another methodology for calculating the emissions from the tanks. The alternate methodology and MDEQ approval shall be maintained in the OPGP Compliance Plan required by Condition 5.5.

(6) In the event the permittee does not request a federally enforceable control requirement for tanks, uncontrolled VOC and HAP emissions shall be utilized, even if tank emissions are routed to the flare. Tank emissions shall be determined using the American Petroleum Institute's E&P Tanks. Flash gas production may also be determined by using laboratory measurement of the Gas-Oil-Ratio from a pressurized liquid sample or a process simulator computer program such as HYSIM, HYSYS or PROMAX. Tank working and breathing losses may also be estimated using EPA AP-42 procedures. The permittee may request approval from MDEQ to use another methodology for calculating the

emissions from the tanks. The alternate methodology and MDEQ approval shall be maintained in the OPGP Compliance Plan required by Condition 5.5.

b. The type and quantity of fuel combusted for each fuel burning equipment on a monthly basis.

c. The barrels of crude oil produced on a monthly basis.

d. The barrels of condensate produced on a monthly basis.

e. The barrels of produced water on a monthly basis.

f. The cubic feet of gas produced on a monthly basis.

g. The cubic feet of gas flared on a monthly basis.

The permittee shall keep all supporting documentation and/or calculations used to generate the records required by this condition including but not limited to purchase orders, lab results, strip charts, logbooks, etc.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.5 For the entire facility, the coverage recipient shall develop and maintain an up to date OPGP Compliance Plan that includes, at a minimum, the following items:

a. A comprehensive list of emission sources (past and present), including all sources listed in approved OPGP NOI's, and Condition 1.H.5 notifications, with the following details:

(1) Detailed description (detailed enough to make NSPS/NESHAP applicability determinations)
(2) Date of manufacture and Serial Number (where available)
(3) Type and quality of fuel combusted for fuel burning equipment
(4) Date of installation/construction and startup (note if unconstructed or has not started up)
(5) Date removed from the site

b. For each piece of equipment and facility-wide, the plan shall clearly identify all 40 CFR Part 60 and 40 CFR Part 63 requirements applicable to the facility including all applicable emission limitations, standards, work practices, monitoring, notification, recordkeeping and reporting requirements. Each requirement contained in the OPGP Compliance Plan shall include its corresponding regulatory citation.

The permittee shall, at all times, maintain an up to date copy of the OPGP Compliance Plan reflecting the current facility operations. The Plan shall be readily available upon inspection or request by the Office of Pollution Control.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.6 For flares required by Condition 3.10, the permittee shall comply with the following monitoring requirements outlined in paragraphs (a) through (d):

a. The permittee shall continuously monitor and record the presence of the flare pilot flame by use of a thermocouple or any other equivalent device to detect the presence of a flame; or

b. The permittee shall continuously maintain and operate an auto-igniter system on the flare to ensure a flame is immediately restored when emissions are being sent to the flare. At a minimum, the permittee shall comply with the following:

(1) The auto-igniter system shall be an electric arc ignition system. The electric arc ignition system shall pulse continually and a device shall be installed and used to continuously monitor that the electric arc ignition system is operational.

(2) The auto-igniter system shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

(3) The auto-igniter system must be equipped with a malfunction alarm and remote notification system that alerts facility personnel if the auto ignition system fails to light the flame.

(4) If the auto-igniter system fails to light the flame, it must be relit as soon as safely possible and the auto-igniter system must be repaired or replaced as soon as practicable.

(5) Physical inspections of all equipment associated with the auto-igniter system shall be performed quarterly. The permittee shall respond to any observation of any auto-igniter failure and ensure the equipment is returned to proper operation as soon as practicable and safely possible after an observation or an alarm sounds.

c. The permittee shall demonstrate initial compliance with the visible emissions limit in Condition 3.11.c. within ninety (90) days of initial startup of a new facility or ninety (90) days of initial issuance of coverage to an existing facility by conducting an EPA Method 22 test for a period of two (2) consecutive hours. The test shall be conducted while the facility is operating at the representative flow to the flare. The permittee shall monitor and maintain records of the gas flow rate to the flare during the test.

If a change is made at the facility, which causes the previous 2-hour visible emissions test to no longer be representative, e.g., a well is completed, an existing well is recompleted, etc., or the flare is replaced or modified, then the permittee must perform a Method 22 test within ninety (90) days of the change.

If the visible emissions limit in Condition 3.11.c. is not met during the Method 22 test, corrective action shall be taken immediately. Immediately following completion of the corrective action(s), the permittee shall demonstrate compliance by performing an EPA Method 22 test for a period of two (2) hours.

d. Subsequent to the initial testing required in Condition 5.6.c., the permittee shall perform monthly visible emissions tests for a minimum of fifteen (15) minutes using EPA Method 22 while the facility is operating with all gases being flared. If visible emissions are observed for a period greater than one (1) minute, corrective action shall be taken immediately. Immediately following completion of the corrective action(s), the permittee shall demonstrate compliance by performing an EPA Method 22 test for a period of two (2) hours and shall monitor and maintain records of the flare rate during the test. The monthly visible emissions tests shall be separated by at least fifteen (15) days between each test.

e. The permittee shall demonstrate compliance with Condition 3.11.e. utilizing the net heating value from the gas analyses required by Condition 5.3.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.7 For flares required by Condition 3.10, the permittee shall comply with the following recordkeeping requirements outlined in paragraphs (a) through (d):

a. The permittee shall maintain a copy of the flare manufacturer operating and maintenance recommendations and detailed records of all maintenance performed on the flare.

b. The permittee shall maintain continuous records of the thermocouple or equivalent device output demonstrating the presence of a flame in the control flare whenever the facility is in operation.

c. The permittee shall maintain records of all EPA Method 22 tests, and details of any corrective/preventative action(s) taken.

d. The permittee shall maintain records of all gas analyses performed to determine the net heating value of the gas being combusted in the flare.

e. For the auto-igniter system, the permittee shall maintain records of any instances in which the auto-igniter system did not function, the date and times of the occurrence,

the corrective actions taken, preventative measures adopted to prevent reoccurrence, all instances of alarm activation, including the date and cause of alarm activation, actions taken to bring the flare into normal operating conditions, and any maintenance activities conducted on the auto-igniter system.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

SECTION 6
REPORTING REQUIREMENTS

Emission Point	Applicable Requirement	Condition Number(s)	Reporting Requirement
Facility-Wide	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	6.1	Report permit deviations within five (5) working days.
		6.2	Submit certified annual monitoring report.
		6.3	All documents submitted to MDEQ shall be certified by a Responsible Official.
		6.4	Performance stack test notification requirements
	11 Miss. Admin. Code Pt. 2, R. 2.5.C(2).	6.5	Submit Commencement of Construction
	Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.C(3).	6.6	Submit notice of no construction for an 18 month period
	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	6.7	Submit Certification of Construction
		6.8	Submit updates to OPGP Compliance Plan
		6.9	Submit Startup Notifications

6.1 Except as otherwise specified herein, the permittee shall report all deviations from permit requirements, including those attributable to upsets, the probable cause of such deviations, and any corrective actions or preventive measures taken. The report shall include the actual emissions during the event and supporting calculations. Said report shall be made within five (5) working days of the time the deviation began.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.2 Except as otherwise specified herein, the permittee shall submit a certified annual synthetic minor monitoring report postmarked no later than 31st of January for the preceding calendar year. This report shall address any required monitoring specified in the permit. All instances of deviations from permit requirements must be clearly identified in the report, including the date the deviation was reported to MDEQ. Where no monitoring data is required to be reported and/or there are no deviations to report, the report shall contain the appropriate negative declaration. The report shall include the following:

a. Monthly and rolling 12-month totals for: produced crude oil (barrels), produced condensate (barrels), produced water (barrels), produced gas (MMSCF), gases flared (MMSCF), total PM_{10} emissions (tons), total SO_2 emissions (tons), total NO_x emissions (tons), total CO emissions (tons), total VOC emissions (tons), total HAP emissions (tons), and individual HAP emissions (tons), including sample calculations;

b. Results of all produced gas analyses performed during the reporting period;

c. Details of any periods where the pilot flame was not present or the auto-igniter system was not operational, including date, start and end times, duration, cause, corrective and preventative actions taken, and whether or not any gases were being vented to the flare;

d. Copies of data sheets for all EPA Method 22 tests performed during the reporting period, including data on gas flow rate to the flare where required by Conditions 5.7.c. & d., and details of any accompanying corrective and preventative actions taken;

e. Continuous pilot flame monitor downtime data: monitor downtime event date, start and end times, duration, cause, corrective and preventive actions taken, and total duration monitor downtime for the reporting period;

f. Auto-igniter system data: report of any instances in which the auto-igniter system did not function, the date and times of the occurrence, the corrective actions taken, preventative measures adopted to prevent reoccurrence, all instances of alarm activation, including the date and cause of alarm activation, actions taken to bring the flare into normal operating conditions, and any maintenance activities conducted on the auto-igniter system; and

g. Updated potential to emit for the facility, not considering this permit's synthetic minor restrictions, and utilizing the actual production data for the calendar year.

Additionally, the report shall include all data required to be reported by any applicable federal standard covered in this general permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.3 Any document required by this permit to be submitted to the MDEQ shall contain a certification signed by a responsible official or duly authorized representative stating that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.4 For any required performance stack testing, the permittee shall submit a written test protocol at least thirty (30) days prior to the intended test date(s) to ensure that all test methods and procedures are acceptable to MDEQ. Also, the permittee shall notify MDEQ in writing at least ten (10) days prior to the indented test date(s) so that an observer may be afforded the opportunity to witness the test.

The permittee shall submit a copy of each performance test report within 60 days after the test has been completed.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.5 The permittee shall notify MDEQ in writing within fifteen (15) days of beginning actual construction that construction has begun. This notification is not required for construction activities covered under Condition 1.H.5.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.C(2).)

6.6 The permittee shall notify MDEQ in writing when construction does not begin within eighteen (18) months of coverage issuance or if construction is suspended for eighteen (18) months or more. If the permittee does not commence construction within eighteen (18) months of coverage issuance or constructions is suspended for eighteen (18) months, coverage expires unless the permittee submits an extension of construction request to MDEQ. Upon receipt, this request extends the construction period for one additional eighteen (18) month period.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.C(3).)

6.7 The coverage recipient shall submit a Certification of Construction in accordance with Conditions 1.F.14. and 1.F.15.. The source may not begin operation until the Certification of Construction is submitted to MDEQ.

The Certification of Construction shall also include an updated OPGP Compliance Plan that accurately addresses the facility "as built". If the OPGP Compliance Plan submitted with the OPGP NOI is accurate for the "as built" facility and requires no updates, the permittee shall include with the Certification of Construction a certification statement that says "The facility certifies that there were no changes at the facility that required a change to the OPGP Compliance Plan submitted with the OPGP NOI and no changes were made."

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.8 Unless otherwise specified herein, the permittee shall submit to MDEQ an updated OPGP Compliance Plan within thirty (30) days of any revision.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.9 The permittee shall notify MDEQ in writing within fifteen (15) days of startup of a new facility or new equipment that is part of modification of an existing facility. The permittee may elect to have the Certification of Construction if required serve as notice of startup.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

State of Mississippi

AIR POLLUTION CONTROL PERMIT

To Construct Air Emissions Equipment

THIS CERTIFIES

HK TMS LLC, Rogers 1H Production Facility
Highway 24
Woodville, MS
Wilkinson County

has been granted permission to construct air emissions equipment to comply with the emission limitations, monitoring requirements and other conditions set forth herein. This permit is issued in accordance with the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder.

Mississippi Environmental Quality Permit Board

Krystel Rudolph

Mississippi Department of Environmental Quality

Issued/Modified: FEB 0 1 2018
Expires:

Permit No. 2940-00047
Agency Interest # 66767

Table of Contents

Other Relevant Documents:

The federal regulations referenced in this permit may be found on-line at http://ecfr.gpoaccess.gov/ and the State of Mississippi regulations may be found on-line at http://www. mdeq.ms.state.us/ or a copy of the regulations may be obtained by contacting the Mississippi Department of Environmental Quality, Environmental Permitting Division, Post Office Box 2261, Jackson, Mississippi 39255, phone (601) 961-5171. The following regulations were referenced in this permit:

Mississippi Air Regulations 11 Miss. Admin. Code Pt. 2, Ch. 1, Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants

Mississippi Air Regulations 11 Miss. Admin. Code Pt. 2, Ch. 2, Permit Regulations for the Construction and/or Operation of Air Emissions Equipment

40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Internal Combustion Engines

To Construct Air Emissions Equipment

HK TMS LLC, Rogers 1H Production Facility

Subject Item Inventory

Permit Number: 2940-00047

Activity ID No.: PER20170001

Subject Item Inventory:

ID	Designation	Description
AI66767	66767	Oil and Gas Production Facility
AREA1	AA-001	Fugitive Emissions from Equipment Leaks
CONT1	AA-002	Control Flare that controls emissions from three phase separator (well gas), heater treater flash gas, Joule-Thomson unit exist gas, crude oil storage tanks and produced water storage tanks
EQPT1	AA-003	335 HP Natural Gas 4 Stroke Rich Burn non-Emergency Spark Ignition Internal Combustion Engine equipped with a catalytic converter
EQPT2	AA-004	235 HP Diesel Non-Emergency Compression Ignition Combustion Engine (Backup Generator)
EQPT3	AA-005	Gas Operated Pump (chemical injection)
EQPT4	AA-006	Gas Operated Pump (chemical injection)
EQPT5	AA-007	Gas Operated Pump (chemical injection)
EQPT6	AA-008	Gas Operated Pump (chemical injection)
EQPT7	AA-009	Gas Operated Pump (Wilden M8)
EQPT8	AA-010	Gas Operated Pump (Wilden M8)
EQPT9	AA-011	Gas Operated Pump (Wilden M8)
EQPT10	AA-012	16,800 gallon Crude Oil Storage Tank
EQPT11	AA-013	16,800 gallon Crude Oil Storage Tank
EQPT12	AA-014	16,800 gallon Crude Oil Storage Tank
EQPT13	AA-015	16,800 gallon Crude Oil Storage Tank
EQPT14	AA-016	16,800 gallon Crude Oil Storage Tank
EQPT15	AA-017	16,800 gallon Crude Oil Storage Tank
EQPT16	AA-018	16,800 gallon Produced Water Storage Tank

Subject Item Inventory:

ID	Designation	Description
EQPT17	AA-019	16,800 gallon Produced Water Storage Tank
EQPT18	AA-020	16,800 gallon Produced Water Storage Tank
EQPT19	AA-021	16,800 gallon Produced Water Storage Tank
EQPT20	AA-022	330 gallon Methanol Storage Tank
EQPT21	AA-023	1000 gallon Diesel Storage Tank
EQPT22	AA-024	500 gallon Diesel Storage Tank
EQPT23	AA-025	275 gallon Chemical Storage Tank
EQPT24	AA-026	275 gallon Chemical Storage Tank
EQPT25	AA-027	55 gallon Chemical Storage Tank
EQPT26	AA-028	Truck Loading
EQPT27	AA-029	Heater Treater Burner Stack (1 MMBTU/hr)
EQPT28	AA-030	Heater Treater Flash Gas Vented to Control Flare
EQPT29	AA-031	Well Gas Vented to Control Flare
EQPT30	AA-032	Pneumatic Controllers
EQPT31	AA-033	203 HP Natural Gas 4 Stroke Rich Burn Non-Emergency Spark Ignition Internal Combustion Engine equipped with a catalytic converter

Subject Item Groups:

ID	Description	Components
GRPT1	Miscellaneous Pumps	EQPT3 Gas Operated Pump (chemical injection)
		EQPT4 Gas Operated Pump (chemical injection)

To Construct Air Emissions Equipment

HK TMS LLC, Rogers 1H Production Facility

Subject Item Inventory

Permit Number: 2940-00047

Activity ID No.: PER20170001

Subject Item Groups:

ID	Description	Components
		EQPT5 Gas Operated Pump (chemical injection)
		EQPT6 Gas Operated Pump (chemical injection)
		EQPT7 Gas Operated Pump (Wilden M8)
		EQPT8 Gas Operated Pump (Wilden M8)
		EQPT9 Gas Operated Pump (Wilden M8)
GRPT2	Crude Oil Storage Tanks	EQPT10 16,800 gallon Crude Oil Storage Tank
		EQPT11 16,800 gallon Crude Oil Storage Tank
		EQPT12 16,800 gallon Crude Oil Storage Tank
		EQPT13 16,800 gallon Crude Oil Storage Tank
		EQPT14 16,800 gallon Crude Oil Storage Tank
		EQPT15 16,800 gallon Crude Oil Storage Tank
GRPT3	Produced Water Storage Tanks	EQPT16 16,800 gallon Produced Water Storage Tank
		EQPT17 16,800 gallon Produced Water Storage Tank
		EQPT18 16,800 gallon Produced Water Storage Tank
		EQPT19 16,800 gallon Produced Water Storage Tank

To Construct Air Emissions Equipment

HK TMS LLC, Rogers 1H Production Facility

Subject Item Inventory

Permit Number: 2940-00047

Activity ID No.: PER20170001

Subject Item Groups:

ID	Description	Components
GRPT4	Miscellaneous Tanks	EQPT20 330 gallon Methanol Storage Tank
		EQPT21 1000 gallon Diesel Storage Tank
		EQPT22 500 gallon Diesel Storage Tank
		EQPT23 275 gallon Chemical Storage Tank
		EQPT24 275 gallon Chemical Storage Tank
		EQPT25 55 gallon Chemical Storage Tank
GRPT5	Heater Treater Combustion Stack	EQPT27 Heater Treater Burner Stack (1 MMBTU/hr)
GRPT6	Heater Treater Vented to Control Flare	EQPT28 Heater Treater Flash Gas Vented to Control Flare
GRPT7	Well Gas Vented to Control Flare	EQPT29 Well Gas Vented to Control Flare
GRPT8	Spark Ignition Internal Combustion Engines	EQPT1 335 HP Natural Gas 4 Stroke Rich Burn non-Emergency Spark Ignition Internal Combustion Engine equipped with a catalytic converter
		EQPT31 203 HP Natural Gas 4 Stroke Rich Burn Non-Emergency Spark Ignition Internal Combustion Engine equipped with a catalytic converter

To Construct Air Emissions Equipment

HK TMS LLC, Rogers 1H Production Facility

Subject Item Inventory

Permit Number: 2940-00047

Activity ID No.: PER20170001

KEY

ACT = Activity	AI = Agency Interest
AREA = Area	CAFO = Concentrated Animal Feeding Operation
CONT = Control Device	EQPT = Equipment
IA = Insignificant Activity	IMPD = Impoundment
MAFO = Animal Feeding Operation	PCS = PCS
RPNT = Release Point	TRMT = Treatment
WDPT = Withdrawal Point	

AI0000066767 (66767) Oil and Gas Production Facility:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Hydrogen sulfide	Hydrogen sulfide: The permittee shall not permit the emissions of any gas stream which contains hydrogen sulfide in excess of one grain per 100 standard cubic feet. Gas streams containing hydrogen sulfide in excess of one grain per 100 standard cubic feet shall be incinerated at temperatures of not less than 1600º fahrenheit for a period of not less than 0.5 seconds, or processed in such manner which is equivalent to or more effective for the removal of hydrogen sulfide. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]
L-2		All equipment located at the facility shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
L-3		For all combustion units operating at this facility, the permittee shall combust only natural gas or diesel. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

Monitoring Requirements:

Condition No.	Parameter	Condition
M-1		The permittee shall conduct an annual produced field gas analysis, including hydrogen sulfide concentration, sulfur content, methane concentration (volume), gross heating value, molecular weight and speciated VOC constituents. The first produced field gas analysis shall be conducted no later than 60 days after certifying construction. Additionally, an updated produced field gas analysis must be conducted within 90 days from startup of any well that starts up after the most recent analysis. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
M-2		The permittee shall calculate the gas to oil ratio (GOR) from the production of crude oil and gas, annually. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]

AI0000066767 (66767) Oil and Gas Production Facility:

Record-Keeping Requirements:

Condition No.	Condition
R-1	The permittee shall keep the following records: (1) Monthly and rolling 12 month total for: produced crude oil (barrels), produced water (barrels), produced field gas (MMSCF), gas flared (MMSCF), volatile organic compound (VOC) emissions (lbs and/or tons) and total hazardous air pollutants (HAP) emissions (lbs and/or tons), and individual HAP emissions (lbs and/or tons), including sample calculations; (2) Results of all field gas analysis performed during the reporting period (3) Gas to Oil Ratio (GOR) annual value . [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]

Submittal/Action Requirements:

Condition No.	Condition
S-1	General Condition: The permittee shall submit certification of construction: Due within thirty (30) days of completion of construction or installation of an approved stationary source or prior to startup, whichever is earlier. The notification shall certify that construction or installation was performed in accordance with the approved plans and specifications. In the event there is any change in construction from the previously approved plans and specifications or permit, the permittee shall promptly notify MDEQ in writing. If MDEQ determines the changes are substantial, MDEQ may require the submission of a new application to construct with "as built" plans and specifications. Notwithstanding any provision herein to the contrary, the acceptance of an "as built" application shall not constitute a waiver of the right to seek compliance penalties pursuant to State Law. [11 Miss. Admin. Code Pt. 2, R. 2.5.D.]
S-2	Within fifteen (15) days of beginning actual construction, the permittee must notify DEQ in writing that construction has begun. [11 Miss. Admin.Code Pt. 2, R.2.5.C (2).]
S-3	The permittee must notify DEQ in writing when construction does not begin within eighteen (18) months of issuance or if construction is suspended for eighteen (18) months or more. [11 Miss. Admin.Code Pt. 2, R.2.5.C(4).]

AI0000066767 (66767) Oil and Gas Production Facility:

Submittal/Action Requirements:

Condition No.	Condition
S-4	The permittee shall report annually by January 31st for the preceding calendar year: (1) Monthly and rolling 12 month total for: produced crude oil (barrels), produced water (barrels), produced field gas (MMSCF), gas flared (MMSCF), volatile organic compound (VOC) emissions (lbs and/or tons) and total hazardous air pollutants (HAP) emissions (lbs and/or tons), and individual HAP emissions (lbs and/or tons), including sample calculations; (2) Results of all field gas analysis performed during the reporting period (3) Gas to Oil Ratio (GOR) annual value . [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]

Narrative Requirements:

General Condition:

Condition No.	Condition
T-1	General Condition: The stationary source shall be designed and constructed so as to operate without causing a violation of any Applicable Rules and Regulations or this permit, without interfering with the attainment and maintenance of State and National Ambient Air Quality Standards, and such that the emission of air toxics does not result in an ambient concentration sufficient to adversely affect human health and well-being or unreasonably and adversely affect plant or animal life beyond the stationary source boundaries. [11 Miss. Admin.Code Pt. 2, R.2.5.A.]
T-2	General Condition: Any activities not identified in the application are not authorized by this permit. [Miss. Code Ann. 49_17_29 1.b]
T-3	General Condition: The necessary facilities shall be constructed so that solids removed in the course of control of air emissions may be disposed of in a manner such as to prevent the solids from becoming windborne and to prevent the materials from entering State waters without the proper environmental permits. [Miss. Code Ann. 49_17_29]

AI0000066767 (66767) Oil and Gas Production Facility:

Narrative Requirements:

Condition No.	Condition
T-4	General Condition: The air pollution control facilities shall be constructed such that diversion from or bypass of collection and control facilities is not needed except as provided for in Regulation 11 Miss. Admin. Code Pt.2, R. 1.10 "Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants", Section 10. [11 Miss. Admin. Code Pt. 2, R. 1.10]
T-5	General Condition: The permittee shall allow the Mississippi Environmental Quality Commission, the Mississippi Environmental Quality Permit Board, MDEQ staff and/or their authorized representatives, upon the presentation of credentials: a. To enter upon the permittee's premises where an air emission source is located or in which any records are required to be kept under the terms and conditions of this permit; and b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring equipment or monitoring method required in this permit, and to sample any air emission. [Miss. Code Ann. 49_17_21]
T-6	General Condition: After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for good cause shown including, but not limited to, the following: a. Persistant violation of any terms or conditions of this permit; b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or c. A change in any condition that requires either a temporary or permanent reduction or elimination of previously authorized air emissions. [11 Miss. Admin.Code Pt. 2, R.2.2.C.]
T-7	General Condition: Except for data determined to be confidential under the Mississippi Air & Water Pollution Control Law, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Mississippi Department of Environmental Quality Office of Pollution Control. [Miss. Code Ann. 49_17_39]

Condition No.	Condition
T-8	General Condition:This permit is for air pollution control purposes only. [11 Miss. Admin.Code Pt. 2, R.2.1.D.]
T-9	General Condition: The knowing submittal of a permit application with false information may serve as the basis for the Permit Board to void the permit issued pursuant thereto or subject the applicant to penalties for operating without a valid permit pursuant to State Law. [11 Miss. Admin.Code Pt. 2, R.2.2.B(5).]
T-10	General Condition: It is the responsibility of the applicant/permittee to obtain all other approvals, permits, clearances, easements, agreements, etc., which may be required including, but not limited to, all required local government zoning approvals or permits. [11 Miss. Admin.Code Pt. 2, R.2.1.D(6).]

AI0000066767 (66767) Oil and Gas Production Facility:

Narrative Requirements:

Condition No.	Condition
T-11	General Condition: The issuance of a permit does not release the permittee from liability for constructing or operating air emissions equipment in violation of any applicable statute, rule, or regulation of state or federal environmental authorities. [11 Miss. Admin.Code Pt. 2, R.2.1.D(7).]
T-12	General Condition: It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit, unless halting or reducing activity would create an imminent and substantial endangerment threatening the public health and safety of the lives and property of the people of this state. [11 Miss. Admin.Code Pt. 2, R.2.2.B(15)(a).]
T-13	General Condition: The permit and/or any part thereof may be modified, revoked, reopened, and reissued, or terminated for cause. Sufficient cause for a permit to be reopened shall exist when an air emissions stationary source becomes subject to Title V. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [11 Miss. Admin.Code Pt. 2, R.2.2.B(15)(b).]
T-14	General Condition: The permit does not convey any property rights of any sort, or any exclusive privilege. [11 Miss. Admin.Code Pt. 2, R.2.2.B(15)(c).]
T-15	General Condition: The permittee shall furnish to the DEQ within a reasonable time any information the DEQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee shall furnish such records to the DEQ along with a claim of confidentiality. The permittee may furnish such records directly to the Administrator along with a claim of confidentiality. [11 Miss. Admin.Code Pt. 2, R.2.2.B(15)(d).]
T-16	General Condition: This permit shall not be transferred except upon approval of the Permit Board. [11 Miss. Admin.Code Pt. 2, R.2.16.B.]
T-17	General Condition: The provisions of this permit are severable. If any provision of the permit, or the application of any provision of the permit to any circumstances, is challenged or held invalid, the validity of the remaining permit provisions and/or portions thereof or their application to other persons or sets of circumstances, shall not be affected thereby. [11 Miss. Admin.Code Pt. 2, R.1.1.D(7).]
T-18	General Condition: The permit to construct will expire if construction does not begin within eighteen (18) months from the date of issuance or if construction is suspended for eighteen (18) months or more. [11 Miss. Admin.Code Pt. 2, R.2.5.C(1).]
T-19	General Condition: A new stationary source issued a Permit to Construct cannot begin operation until certification of construction by the permittee. [11 Miss. Admin.Code Pt. 2, R.2.5.D(3).]

AI0000066767 (66767) Oil and Gas Production Facility:

Narrative Requirements:

Condition No.	Condition
T-20	General Condition: Except as prohibited in 11 Miss. Admin. Code Pt. 2,R. 2.5.D(7) after certification of construction by the permittee, the Permit to Construct shall be deemed to satisfy the requirement for a permit to operate until the date the application for issuance or modification of the Title V Permit or the application for issuance or modification of the State Permit to Operate, whichever is applicable, is due. This provision is not applicable to a source excluded from the requirement for a permit to operate as provided by 11 Miss. Admin. Code Pt. 2, R. 2.13.G. [11 Miss. Admin. Code Pt. 2, R. 2.5.D(4).]
T-21	General Condition: Except as otherwise specified in 11 Miss. Admin. Code Pt. 2, R. 2.5.D(7), the application for issuance or modification of the State Permit to Operate or the Title V Permit, whichever is applicable, is due twelve (12) months after beginning operation or such earlier date or time as specified in the Permit to Construct. The Permit Board may specify an earlier date or time for submittal of the application. Beginning operation will be assumed to occur upon certification of construction, unless the permittee specifies differently in writing. [11 Miss. Admin. Code Pt. 2, R. 2.5.D(5).]
T-22	General Condition: Except as otherwise specified in 11 Miss. Admin. Code Pt. 2, R. 2.5.D(7), upon submittal of a timely and complete application for issuance or modification of a State Permit to Operate or a Title V Permit, whichever is applicable, the applicant may continue to operate under the terms and conditions of the Permit to Construct and in compliance with the submitted application until the Permit Board issues, modifies, or denies the Permit to Operate. [11 Miss. Admin. Code Pt. 2, R. 2.5.D(6).]
T-23	General Condition: For moderate modifications that require contemporaneous enforceable emissions reductions from more than one emission point in order to net out of PSD/NSR, the applicable Title V Permit to Operate or State Permit to Operate must be modified prior to beginning operation of the modified facilities. [11 Miss. Admin.Code Pt. 2, R.2.5.D(7).]
T-24	General Condition: Regarding compliance testing: (a) The results of any emissions sampling and analysis shall be expressed both in units consistent with the standards set forth in any Applicable Rules and Regulations or this permit and in units of mass per time. (b) Compliance testing will be performed at the expense of the permittee. (c) Each emission sampling and analysis report shall include but not be limited to the following: 1. detailed description of testing procedures; 2. sample calculation(s); 3. results; and 4. comparison of results to all Applicable Rules and Regulations and to emission limitations in the permit. [11 Miss. Admin.Code Pt. 2, R.2.6.B(3),(4)&(6).]

AI0000066767 (66767) Oil and Gas Production Facility:

Narrative Requirements:

Condition No.	Condition
T-25	General Condition: The construction of the stationary source shall be performed in such a manner so as to reduce fugitive dust emissions from construction activities to a minimum. [11 Miss. Admin.Code Pt. 2, R.2.5.A(4).]

CONT0000000001 (AA-002) Control Flare that controls emissions from three phase separator (well gas), heater treater flash gas, Joule-Thomson unit exist gas, crude oil storage tanks and produced water storage tanks:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Particulate Matter	Particulate Matter: The maximum permissible emission of ash and /or particulate matter from the control flare shall not exceed an emission rate as determined by the relationship E = 0.8808 * I -0.1667 Where E is the emission rate in pounds per million BTU per hour heat input and I is the heat input in millions of BTU per hour. (Ref. APC-S-1, Section 3.4(a)(2)) . [11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)b]
L-2		Flares shall be operated at all times when emission may be vented to them. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]
L-3		Flares shall be operated and maintained in conformance with their design and manufacturer's recommendations. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]
L-4		Flares shall be designed and operated with no visible emissions as determined by EPA Method 22, except for periods not to exceed a total of 5 minutes during any consecutive two (2) hours. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]
L-5		The permittee shall maintain a flare pilot flame, auto ignitor, or any other equivalent device at all times when emissions are routed to the flare. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]
L-6		Flares shall only be used with the net heating value of the gas being combusted is 300 Btu/scf or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 200 Btu/scf or greater if the flare is non-assisted. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

CONT0000000001 (AA-002) Control Flare that controls emissions from three phase separator (well gas), heater treater flash gas, Joule-Thomson unit exist gas, crude oil storage tanks and produced water storage tanks:

Monitoring Requirements:

Condition No.	Parameter	Condition
M-1		The permittee shall monitor the presence of the flare pilot flame or auto ignitor by one of the following methods: using a thermo-couple or any other equivalent device to detect the presence of a flame; or visually observe the presence of the flare flame, daily. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
M-2		The permittee shall visually observe the flare for a minimum of five (5) minutes during operation using EPA method 22, weekly. If smoking is observed, corrective actions must be taken. The permittee shall perform a follow-up visual observation for a period of two (2) hours using EPA Method 22 immediately after corrections are made to demonstrate compliance with the visible emissions limitation. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
M-3		The net heating value of the gas being combusted may be determined by the annual field gas analysis. Analysis must demonstrate that the heat content of the flare gas is 300 Btu/scf or greater if the flare is steam-assisted; or the net heating value of the gas being combusted is 200 Btu/scf or greater if the flare is non-assisted . [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
M-4		The permittee shall measure the volume of gas combusted in the flare. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]

Record-Keeping Requirements:

Condition No.	Condition
R-1	The permittee shall keep records of all maintenance performed on the flare in order to operate the flare in a manner consistent with good air pollution control practices to minimize emissions and shall make said record available upon request. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
R-2	The permittee shall maintain a record and/or log documenting all visual observation/test, the nature and cause of any visible emissions, any corrective action(s) taken to prevent or minimize the emissions, the date and time when visible observations were conducted and the date and time when corrective actions were taken. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]

CONT0000000001 (AA-002) Control Flare that controls emissions from three phase separator (well gas), heater treater flash gas, Joule-Thomson unit exist gas, crude oil storage tanks and produced water storage tanks:

Record-Keeping Requirements:

Condition No.	Condition
R-3	The permittee shall record on a log sheet anytime the facility is operating without a flare flame present and corrective actions taken including date, start and end times, duration, cause, corrective and preventative actions, and whether or not any gases were being vented to the flare at the time. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
R-4	The permittee shall keep a record of monitoring conducted to ensure the flare is operated and maintained in conformance with its design. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]

EQPT0000000002 (AA-004) 235 HP Diesel Non-Emergency Compression Ignition Combustion Engine (Backup Generator):

Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Particulate Matter	Particulate Matter: For this internal combustion engine, the maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input. [11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)a]
L-2	Opacity	Opacity: Emissions of opacity shall be less than or equal to 40%, as determined by EPA Reference Method 9, 40 CFR Part 60, Appendix A. [11 Miss. Admin. Code Pt. 2, R. 1.3.A(1)]
L-3		For this combustion engine, the permittee is subject to 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE). Emission Point AA-004 is a new RICE located at an area source of hazardous air pollutants (HAP). Therefore, compliance with 40 CFR Part 63, Subpart ZZZZ shall be achieved by meeting all applicable requirements of the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60, Subpart IIII. No further requirements apply for such engines under NESHAP Subpart ZZZZ. [40 CFR 63.6585, 40 CFR 63.6590(c)]
L-4		For this combustion engine, the permittee is subject to and shall comply with the applicable requirements of the New Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines (CI ICE) (40 CFR Part 60, Subpart III) and shall comply with the General Provisions (40 CFR Part 60, Subpart A) as required in Table 8 to NSPS Subpart IIII. [40 CFR 60_Subpart IIII]

EQPT0000000026 (AA-028) Truck Loading:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		Truck loading shall only be operated with vapor balancing back to the tanks. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

GRPT0000000001 (Pumps) Miscellaneous Pumps:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		Such air emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

GRPT0000000002 (Crude Oil Storage Tanks) Crude Oil Storage Tanks:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		The crude oil storage tanks shall only be operated with emissions routed to the control flare. [11 Miss. Admin. Code Pt. 2, R. 2.2 .B(10)]

GRPT0000000003 (Produced Water Storage Tanks) Produced Water Storage Tanks:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		The produced water storage tanks shall only be operated with emissions routed to the control flare. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

GRPT0000000004 (Miscellaneous Tanks) Miscellaneous Tanks:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		Such air emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

GRPT0000000005 (Heater Treater Burner) Heater Treater Combustion Stack:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Particulate Matter	Particulate Matter: For the heater treaters, the maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input. [11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)a]
L-2	Opacity	Opacity: Emissions of opacity shall be less than or equal to 40%, as determined by EPA Reference Method 9, 40 CFR Part 60, Appendix A. [11 Miss. Admin. Code Pt. 2, R. 1.3.A(1)]
L-3	Sulfur Dioxide	Sulfur Dioxide: The permittee shall not discharge sulfur oxides from any fuel burning installation in which fuel is burned primarily to produce heat or power by indirect heat transfer in excess of 4.8 pounds (measured as sulfur dioxide) per million BTU heat input. [11 Miss. Admin. Code Pt. 2, R. 1.4.A(1)]

GRPT0000000006 (Heater Treater) Heater Treater Vented to Control Flare:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		Heater treaters shall only be operated with produced gas emissions routed to a control flare. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

GRPT0000000007 (Well Gas) Well Gas Vented to Control Flare:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		Three phase separators shall only be operated with emissions routed to a control flare or to a Joule Thomson (J-T) unit. Produced gas routed to the J-T unit will be used for facility fuel. Any produced gas from the separators that is not used for facility fuel shall be routed to the control flare. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

GRPT0000000008 (RICE) Spark Ignition Internal Combustion Engines:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		For each of these combustion engines, the maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input. [11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)a]
L-2		Emissions of opacity shall be less than or equal to 40%, as determined by EPA Reference Method 9, 40 CFR Part 60, Appendix A. [11 Miss. Admin. Code Pt. 2, R. 1.3.A(1)]
L-3		For these combustion engine, the permittee is subject to 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE). Emission Point AA-003 and AA-033 are new RICE located at an area source of hazardous air pollutants (HAP). Therefore, compliance with 40 CFR Part 63, Subpart ZZZZ shall be achieved by meeting all applicable requirements of the New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60, Subpart JJJJ. No further requirements apply for such engines under NESHAP Subpart ZZZZ. [40 CFR 63.6585, 40 CFR 63.6590(c)]
L-4		For these combustion engine, the permittee is subject to and shall comply with the applicable requirements of the New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines (SI ICE) (40 CFR Part 60, Subpart JJJJ) and shall comply with the General Provisions (40 CFR Part 60, Subpart A) as required in Table 3 to NSPS Subpart JJJJ. [40 CFR 60_SUBPART JJJJ]

GENERAL INFORMATION

HK TMS LLC, Rogers 1H Production Facility
Highway 24
Woodville, MS
Wilkinson County

Alternate/Historic Identifiers

ID	Alternate/Historic Name	User Group	Start Date	End Date
66767	HK TMS, LLC (Matthew Holseth)	Official Site Name	01/24/2018	
2815700047	HK TMS, LLC	Air-AIRS AFS	10/14/2014	
294000047	HK TMS LLC, Rogers 1H Production Facility	Air-Construction	12/05/2014	
	Branch	Branches Group - Air	07/18/2017	
66767	Hk TMS, LLC, (Steve Herod)	Historic Site Name	10/13/2014	01/24/2018

Basin: South Independent Streams Basin

GENERAL INFORMATION

General Facility Description: This facility is an oil and gas production facility with Standard Industrial Classification Code of 1311

Relevant Documents: The federal regulations referenced in this permit may be found on-line at http://ecfr.gpoaccess.gov/ and the State of Mississippi regulations may be found on-line at http://www. mdeq.ms.state.us/ or a copy of the regulations may be obtained by contacting the Mississippi Department of Environmental Quality, Environmental Permitting Division, Post Office Box 2261, Jackson, Mississippi 39255, phone (601) 961-5171. The following regulations were referenced in this permit:

Mississippi Air Regulations 11 Miss. Admin. Code Pt. 2, Ch. 1, Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants

Mississippi Air Regulations 11 Miss. Admin. Code Pt. 2, Ch. 2, Permit Regulations for the Construction and/or Operation of Air Emissions Equipment

40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Internal Combustion Engines