

MARYLAND DEPARTMENT OF THE ENVIRONMENT

**AIR AND RADIATION ADMINISTRATION
APPLICATION FOR A PERMIT TO CONSTRUCT**

DOCKET #03-25

COMPANY: University of Maryland

LOCATION: 7743 Baltimore Ave., College Park, MD 20740

APPLICATION: Permanent power and steam generating units.

<u>ITEM</u>	<u>DESCRIPTION</u>
1	Notice of Application and Informational Meeting
2	Environmental Justice (EJ) Information - EJ Fact Sheet
3	Permit to Construct Application – Project Overview, Emission Calculations, Forms 11, 44, and 42, EJ Analysis and MDE EJ Score and Screening Report, Process Flow Diagram, Site Plan, Vendor Specifications, Workers Compensation Coverage
4	CPCN Exemption from the Public Service Commission
5	Zoning Exemption Documents
6	Privilege Log

**DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION**

NOTICE OF APPLICATION AND INFORMATIONAL MEETING

The Maryland Department of the Environment, Air and Radiation Administration (ARA) received a permit-to-construct application from the University of Maryland on January 15, 2025 for the installation of permanent power and steam generating units. The proposed installation will be located at 7743 Baltimore Ave, College Park, MD 20740.

In accordance with HB 1200/Ch. 588 of 2022, the applicant provided an environmental justice (EJ) Score for the census tract in which the project is located using the MDE EJ Screening Tool. The EJ Score, expressed as a statewide percentile, was shown to be 82 which the Department has verified. This score considers three demographic indicators, minority population above 50%, poverty rate above 25% and limited English proficiency above 15%, to identify underserved communities. Multiple environmental health indicators are used to identify overburdened communities.

Copies of the application, the MDE EJ Screening Tool Report (which includes the score), and other supporting documents are available for public inspection on the Department's website at <https://mde.maryland.gov/programs/Permits/AirManagementPermits/Pages/index.aspx> (click on Docket Number 03-25). Any applicant-provided information regarding a description of the environmental and socioeconomic indicators contributing to that EJ score can also be found at the listed website. Such information has not yet been reviewed by the Department. A review of the submitted information will be conducted when the Department undertakes its technical review of all documents included in the application.

Pursuant to the Environment Article, Section 1-603, Annotated Code of Maryland, an informational meeting has been scheduled so that citizens can discuss the application and the permit review process with the applicant and the Department.

An Informational Meeting will be held on April 10, 2025 from 6:30-8:00 PM at the University of Maryland, Seneca Building, Room 0110, 4716 Pontiac Street, College Park, Maryland 20740.

The Department will provide an interpreter for deaf and hearing-impaired persons provided that a request is made for such service at least ten (10) days prior to the meeting.

Further information may be obtained by calling Ms. Shannon Heafey at 410-537-4433.

Christopher R. Hoagland, Director
Air and Radiation Administration



The Applicant's Guide to Environmental Justice and Permitting

What You Need to Know

This fact sheet is designed to provide guidance to applicants on incorporating environmental justice screening requirements pursuant to House Bill 1200, effective October 1, 2022.

What is Environmental Justice?

The concept behind the term environmental justice (EJ) is that regardless of race, color, national origin, or income, all Maryland residents and communities should have an equal opportunity to enjoy an enhanced quality of life. How to assess whether equal protection is being applied is the challenge.

Communities surrounded by a disproportionate number of polluting facilities puts residents at a higher risk for health problems from environmental exposures. It is important that residents who may be adversely affected by a proposed source be aware of the current environmental issues in their community in order to have meaningful involvement in the permitting process. Resources may be available from government and private entities to ensure that community health is not negatively impacted by a new source located in the community.

Extensive research has documented that health disparities exist between demographic groups in the United States, such as differences in mortality and morbidity associated with factors that include race/ethnicity, income, and educational attainment. House Bill 1200 adds to MDE's work incorporating diversity, equity and inclusion into our mission to help overburdened and underserved communities with environmental issues.

What is House Bill 1200 and what does it require?

Effective October 1, 2022, House Bill 1200 requires a person applying for a permit from the Department under §1-601 of the Environment Article of the Annotated Code of Maryland or any permit requiring public notice and participation to include in the application an EJ Score for the census tract where the applicant is seeking the permit; requiring the Department, on receiving a certain permit application to review the EJ Score; and requiring notices to include information related to EJ Scores and generally relating to environmental permits and environmental justice screenings.

What is a "Maryland EJ Tool"?

The term "Maryland EJ Tool" means a publicly available state mapping tool that allows users to: (1) explore layers of environmental justice concern; (2) determine an overall EJ score for census tracts in the state; and (3) view additional context layers relevant to an area. The MDE EJ Screening Tool is considered a Maryland EJ Tool.

What is an "EJ Score"?

The term "EJ Score" means an overall evaluation of an area's environment and environmental justice indicators, as defined by MDE in regulation, including: (1) pollution burden exposure; (2) pollution burden environmental effects; (3) sensitive populations; and (4) socioeconomic factors.

The MDE EJ Screening Tool considers three demographic indicators, minority population above 50%, poverty rate above 25% and limited English proficiency above 15%, to identify underserved communities, and multiple environmental health indicators to identify overburdened communities. The tool uses these indicators to calculate a



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The Applicant's Guide to Environmental Justice and Permitting

What You Need to Know

Final EJ Score Percentile, statewide. It is that score, linked to the census tract where the project is to be located, that needs to be reported to MDE as part of your permit application.

What does the application require?

The link for the MDE EJ Screening Tool is located on the Department's website, www.mde.maryland.gov. Click on the Environmental Justice header at the top of the Department's home page, then select EJ Screening Tool from the menu on the left. Click on Launch the EJ Screening Tool. After you open the tool, click okay on the opening screen. At the top right, please click the first button for the MDE Screening Report. Input the address of the proposed installation in the address bar. Click on the Report button. Once the report has been generated select the print icon and save it in a .pdf format.

The applicant needs to include the MDE Screening Report with the EJ Score from the MDE EJ Screening Tool as part of the permit application upon submission. An application will not be considered complete without the report.

The applicant is encouraged to provide the Department with a discussion about the environmental exposures in the community. This will provide pertinent information about how the applicant should proceed with engaging with the community. Residents of a community with a high indicator score and a high degree of environmental exposure should be afforded broader opportunities to participate in the permit process and understand the impacts a project seeking permit approval may have on them.

Questions

For air quality permits, please call 410-537-3230.

For water permits, please call 410-537-4145.

For land permits pertaining to Solid Waste, please call 410-537-3098. For land permits pertaining to Oil Control, please call 410-537-3483.

For land permits pertaining to Animal Feeding Operations, please call 410-537-4423.

For land permits pertaining to Biosolids, please call 410-537-3403.

APPLICATION FOR AN AIR PERMIT TO CONSTRUCT

UNIVERSITY OF MARYLAND

COLLEGE PARK

CENTRAL ENERGY PLANT



**UNIVERSITY OF
MARYLAND**

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1. Introduction

The University of Maryland (UMD) is located along Baltimore Avenue in Prince George's County, Maryland. The College Park campus is an academic institution that has utility needs (steam, electricity, chilled water, etc.).

Utility needs of the campus (including heating and cooling for campus housing, offices, and laboratories) are currently provided by two combustion turbines equipped with duct burners (EU #001-7 and EU #001-8) and several boilers (EU #001-2, EU #001-4, and EU #001-9). All these power and steam generation sources are collectively referred to as the Central Energy Plant (henceforth referred to as CEP). The sources at the CEP are authorized under Title V operating permit No. 24-033-0010 issued on December 13, 2022 by the Maryland Department of the Environment (MDE). The standard industrial classification (SIC) code for the campus is 8221.

On December 3, 2024, UMD was issued an updated Air Quality Permit to Construct Number 033-0010-5-1709 for the installation of five (5), natural gas-fired¹ mobile boilers each rated at 99.9 million British thermal units per hour (MMBtu/hr) for interim service while the campus plans and executes a permanent solution to meet its power and steam needs (the "interim boiler permit").

As part of the NextGen project (the "project") and by means of this application, UMD is applying for an air quality Permit to Construct of the following permanent power and steam generating emission units at the campus:

- Two (2) new 182.09 MMBtu/hr natural gas-fired boilers, each equipped with an integrated burner capable of being turned down to fire at 9.25 MMBtu/hr (referred to as the "pilot mode" of operation);
- One (1) new, 171.9 MMBtu/hr [16.5 megawatts electrical (MWe)] natural gas-fired combustion turbine, equipped with a heat recovery steam generator (HRSG) and supplemental 92 MMBtu/hr duct burner (natural gas-fired); and
- One (1) new 2,346 horsepower (hp) [1,750 kilowatts mechanical (kWm)] ultra-low sulfur diesel (ULSD) fueled generator proposed for emergency use.²

The proposed new boilers and combustion turbine are each being permitted to combust up to 48 hours per year of ultra-low sulfur fuel oil (also commonly referred to as ULSD) for tuning and readiness testing. Unlimited operation on ULSD during emergency situations such as natural gas curtailment and interruption is permitted for this equipment.

A site location map of the campus where the CEP is located is presented in Figure 1-1. The campus is located in Prince George's County, Maryland which is designated as nonattainment for ozone. Additionally, Maryland is located in the Ozone Transport Region (OTR), which classifies the entire state of Maryland as nonattainment for ozone as well. Prince George's County is classified as

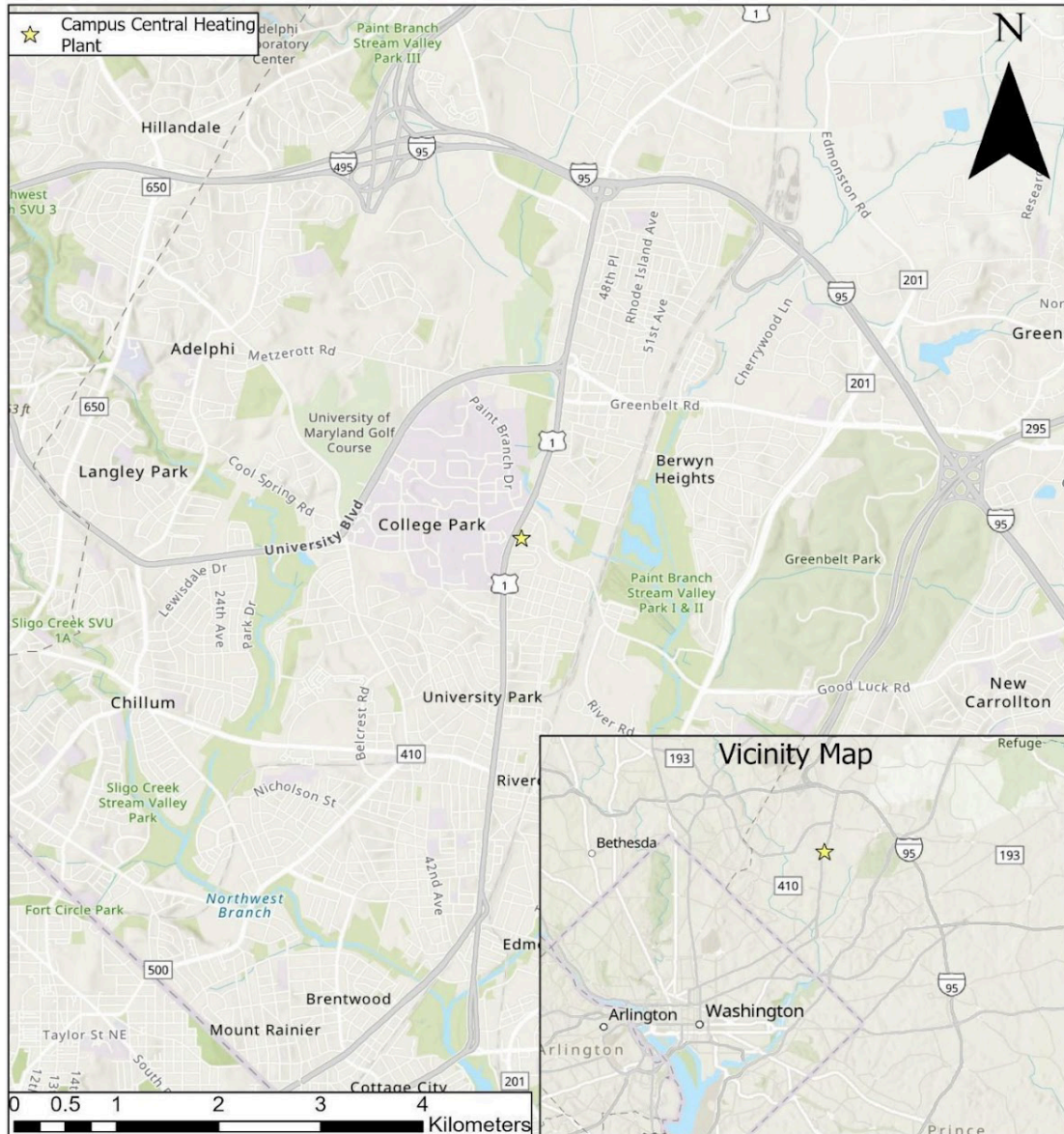
¹ The mobile boilers are each permitted to combust up to 48 hours per year of ultra-low sulfur fuel oil for boiler tuning and readiness testing. Operation of the boilers on ultra-low sulfur fuel oil during emergency situations such as natural gas curtailment and interruption is permitted but not regulated.

² The proposed engine will be required to support electrical load of the facility during periods of grid power interruptions.

attainment or unclassifiable for all other criteria air pollutants. With this permit application, UMD is seeking to obtain an air quality Permit to Construct to establish enforceable limits on pollutant emission increases in order to avoid Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR) permitting. Because this project does not trigger major New Source Review (NSR) permitting requirements, an air quality dispersion modeling analysis is not required.

Enclosed are the required application materials consisting of project and process descriptions, emission calculations (Appendix A), MDE permit to construct application forms (Appendix B), environmental justice (EJ) analysis (Appendix C), a process flow diagram (Appendix D), site layout showing location of the proposed new units (Appendix E), vendor equipment specifications (Appendix F), CPCN exemption approval (Appendix G), workman's compensation insurance (Appendix H), public outreach conducted (Appendix I), and historical emissions reports of retiring units (Appendix J).

Figure 1-1. Project Location Map: University of Maryland, College Park, Central Energy Plant



Site Location Map

University of Maryland, College Park Campus Central Energy Plant

2. Project Description

2.1 Project Overview

2.1.1 Permanent Generation Sources

As discussed in Section 1, the project consists of the installation of the following equipment:

- Two (2) new 182.09 MMBtu/hr natural gas-fired boilers, each equipped with an integrated burner capable of being turned down to fire at 9.25 MMBtu/hr (referred to as the “pilot mode” of operation);
- One (1) new, 171.9 MMBtu/hr (16.5 MWe) natural gas-fired combustion turbine, equipped with a HRSG and supplemental natural gas-fired 92 MMBtu/hr duct burner; and
- One (1) new 2,346 hp (1,750 kWm) ULSD-fired generator proposed for emergency use.

The proposed new boilers and combustion turbine are each being permitted to combust up to 48 hours per year of ULSD for tuning and readiness testing. Sections 2.2.1 through 2.2.3 provide more details on the specifications of the new equipment associated with the project.

2.1.2 Decommissioning of Existing Emission Units

As part of the project, UMD is also proposing to retire the following existing emission units:

- EU #001-7 and EU #001-8 (MDE Registration Nos. 9-1081 and 9-1082): Two (2) 11.2 MWe (16,200 bhp) General Electric Combustion Turbines, each equipped with a HRSG and a 126 MMBtu/hr duct burner;
- EU #001-2 & EU #001-4 (MDE Registration Nos. 5-0256 and 5-0159): Two (2) Union Iron Boilers with heat input rating of 157 MMBtu/hr and 117 MMBtu/hr, respectively;
- EU #001-6: One (1) 780 kWe (1,109 bhp) ULSD fueled Caterpillar emergency generator; and
- EU #001-9: One (1) 95 MMBtu/hr Wabash mobile boiler.

2.1.3 Interim Boilers

UMD has been authorized the construction and operation of five (5) interim mobile boilers under the interim boiler permit (Permit No. 033-0010-5-1709), which will satisfy the site steam demand while the project is being constructed. UMD will remove those interim boilers from service after the permanent project sources become operational. The estimated operation time for the five (5) mobile boilers is expected to be less than two (2) years; however, operation beyond the two (2) years may occur which is discussed in further detail in a later section.

2.2 Project Need

UMD’s public-private partnership (“P3”) policy initiative began in 1995, when UMD was faced with serious deficiencies in its aging steam generation and electric distribution systems. As the result of a competitive procurement, UMD, in conjunction with the Maryland Economic Development Corporation (“MEDCO”), entered into a P3 to make capital improvements to energy systems and to manage, operate, and maintain those systems through August 31, 2019 (the “1999 Program”). The NextGen Program continues UMD’s reliance on the P3 business model by ensuring UMD receives

reliable, efficient, affordable, and sustainable energy services over the 33-year term of the Energy Services Concession Agreement (Concession Agreement) between UMD and Maryland Energy Impact Partners LLC (MEIP).

The CEP, which is one component of UMD's energy systems, is vital to UMD's continued success as it is the sole provider of steam on campus. Steam is used in many aspects across the campus from heating academic buildings and dorms, to providing sanitation in dining halls, and maintaining decades long research projects. As the College Park campus has grown over the past 25 years, so has its steam demand. Currently, the peak hourly net steam demand of the CEP is roughly 235,000 pounds per hour (lb/hr) with the demand expected to grow to 260,000 lb/hr or more over the next 33 years.³

The CEP currently produces steam with six permanent pieces of equipment located within the CEP and one mobile boiler located adjacent to the north wall of the CEP. The permanent equipment includes two boilers installed in 1976 and 1966 (EU #001-2 and EU #001-4) and two natural gas combustion turbines installed in 2004, each of which is coupled with a HRSG/duct burner (EU #001-7 and EU #001-8). The HRSG produces steam with the exhaust energy from the combustion turbine as it produces electricity. The coupling of the combustion turbine and HRSG is known as combined heat and power (CHP). The rated gross steam output of this equipment is 463,000 lb/hr. Due to the age and phased out production of the equipment by manufacturers, maintaining the equipment has become increasingly difficult, thus reducing the reliability of the CEP.

To address this issue, a 75,000 lb/hr steam output mobile boiler was permitted in 2020 (EU #001-9) on the north side of the CEP to reinforce steam production reliability and provide supplemental steam capacity during periods of high demand or natural gas supply curtailments (reduction of natural gas deliveries to customers due to a shortage of supply or high demand, often implemented during the winter months). While the mobile boiler does not have the capabilities to support the entire demand of the campus, the rated gross steam output of all steam equipment is 568,000 lb/hr. Prior to 2017, the majority of UMD's steam requirements were met by operating the supplemental fuel burning in the HRSG duct burners. UMD only relied on boiler capacity during the CHPs' annual maintenance or if a CHP was otherwise unavailable. From early 2017 to late 2020, the boilers were the primary steam production units, thereby reducing their remaining life. With the HRSGs' reliability compromised, the CHPs' firm steam capacity decreased to 213,000 lb/hr, which was substantially below UMD's historic peak steam load. To mitigate the risk of the loss of either boiler, UMD permitted the mobile boiler as discussed above. While major overhauls of the CHPs improved their availability, UMD was concerned about the CHPs' ability to meet campus steam load if one or both of the CHPs became unavailable.

The steam producing equipment of the project will include two boilers and one CHP, each rated for steam output of approximately 150,000 lb/hr for a total capacity of 450,000 lb/hr of steam. The NextGen Program provides redundancy and allows the CEP to reliably meet the steam demand of the campus over the next 33 years by replacing the existing equipment with new equipment sized such that the CEP can support the campus steam demand.

³ While the future steam demand is expected to be a contractual net 260,000 lb/hr, the project has the capability of generating more steam and it is expected that up to 271,000 lb/hr of steam could be expected over the term of the contract.

Natural gas will be the primary fuel burned in the new equipment installed at the CEP facility. ULSD is only proposed to be burned in the equipment at the new CEP facility during an emergent situation such as natural gas curtailment or supply interruption. UMD has voluntarily accepted a cap of 48 hours of non-emergency/non-curtailment operation per year on ULSD. These 48 hours will be used throughout the year for testing and tuning purposes in order to ensure that the CEP is able to switch over during curtailment or emergency events. While it is critical for UMD to maintain continuity of operations and world-changing research, participation in the curtailment program is a critical element of UMD's partnership with the surrounding community. UMD is one of the largest users of natural gas in the community. Participation in the voluntary curtailment program through Washington Gas is a way for UMD to ensure that everyone in the community has access to natural gas for heating, cooking, and bathing during times of high demand or low supply of natural gas.

There are high costs associated with purchasing and using equipment that has the ability to fire on multiple types of fuel, as well as higher costs and lower efficiency associated with the use of ULSD for fuel, as well as increased operational costs. UMD has the ability to switch the fuel used, whereas most homeowners and business owners in the surrounding community do not have this ability. During colder months, it would not be uncommon for the CEP to utilize over 5 million therms of natural gas on a monthly basis. This is the equivalent of roughly 20,000 homes in our surrounding community. While those infrequent periods of curtailment and testing may cause UMD to be slightly less sustainable and have slightly higher emission rates, it allows UMD to be a good neighbor and ensure the needs of the surrounding community are met.

2.2.1 Two (2) 182.09 MMBtu/hr Natural Gas-Fired Boilers

As part of the project, UMD is proposing to install two (2) O-type Rentech boilers with flue gas recirculation (FGR) and low-nitrogen oxide (Low-NO_x) burners. The boilers will primarily be fired using natural gas but will have the capability to burn ULSD in instances where natural gas supply is curtailed by Washington Gas. ULSD firing during readiness testing, tuning, and other regulatory testing will be limited to 48 hours per year. There is no limit on ULSD firing during natural gas curtailment, or supply interruptions. Each boiler is capable of supplying up to 150,000 lb/hr of steam.

Both boilers will be equipped with natural gas-fired fast-start burners which can be turned down to 9.25 MMBtu/hr during periods of low steam demand. This mode of operation is referred to as the "pilot mode". Operation in the pilot mode maintains the key component of the boilers at close to optimal operating temperature, allowing the boilers to be able to quickly convert to full operation mode with a minimum start-up period, resulting in lower incremental heat input compared to keeping the boilers operational at some minimum load.

2.2.2 One (1) 171.9 MMBtu/hr (16.5 MWe) Solar Titan 130 Combustion Turbine

UMD is also proposing to install a Solar Titan 130 combustion turbine with a HRSG and supplemental duct firing of up to 92 MMBtu/hr (i.e., CHP operating mode). The combustion turbine will primarily be fired using natural gas but will have the capability to burn ULSD in instances where natural gas supply is curtailed or interrupted. ULSD firing during readiness testing, tuning, and other regulatory

testing will be limited to 48 hours per year. There is no limit on ULSD firing during natural gas curtailment, or supply interruptions. The supplemental duct burner will only be fired using natural gas.

Solar's Titan 130 is an integrated prime mover of a single shaft, axial flow design. The combustion design uses special fuel injectors with main and pilot fuel ports. The fuel injection is controlled during both startup and steady state operation to maintain stability of combustion and minimization of emissions. The combustion turbine is configured to use a dry low NO_x emission combustion system (SoLoNO_x), which relies on lean premixed combustion to reduce the flame temperature resulting in lower NO_x and carbon monoxide (CO) emissions.

2.2.3 One (1) 2,346 hp (1,750 kWm) Diesel Fueled Emergency Generator

The project includes the addition of a 2,346 hp (1,750 kWm) diesel-fired emergency generator. The generator engine will use ULSD fuel and will be United States Environmental Protection Agency (USEPA)-certified to meet the New Source Performance Standards (NSPS) in Title 40 of the Code of Federal Regulations (40 CFR) 60, Subpart IIII and will meet the National Emissions Standards for Hazardous Air Pollutants (NESHAP), Subpart ZZZZ (See Section 5.0 for a detailed regulatory applicability analysis).

See Table 2-1 for a tabular representation of the project scope and schedule.

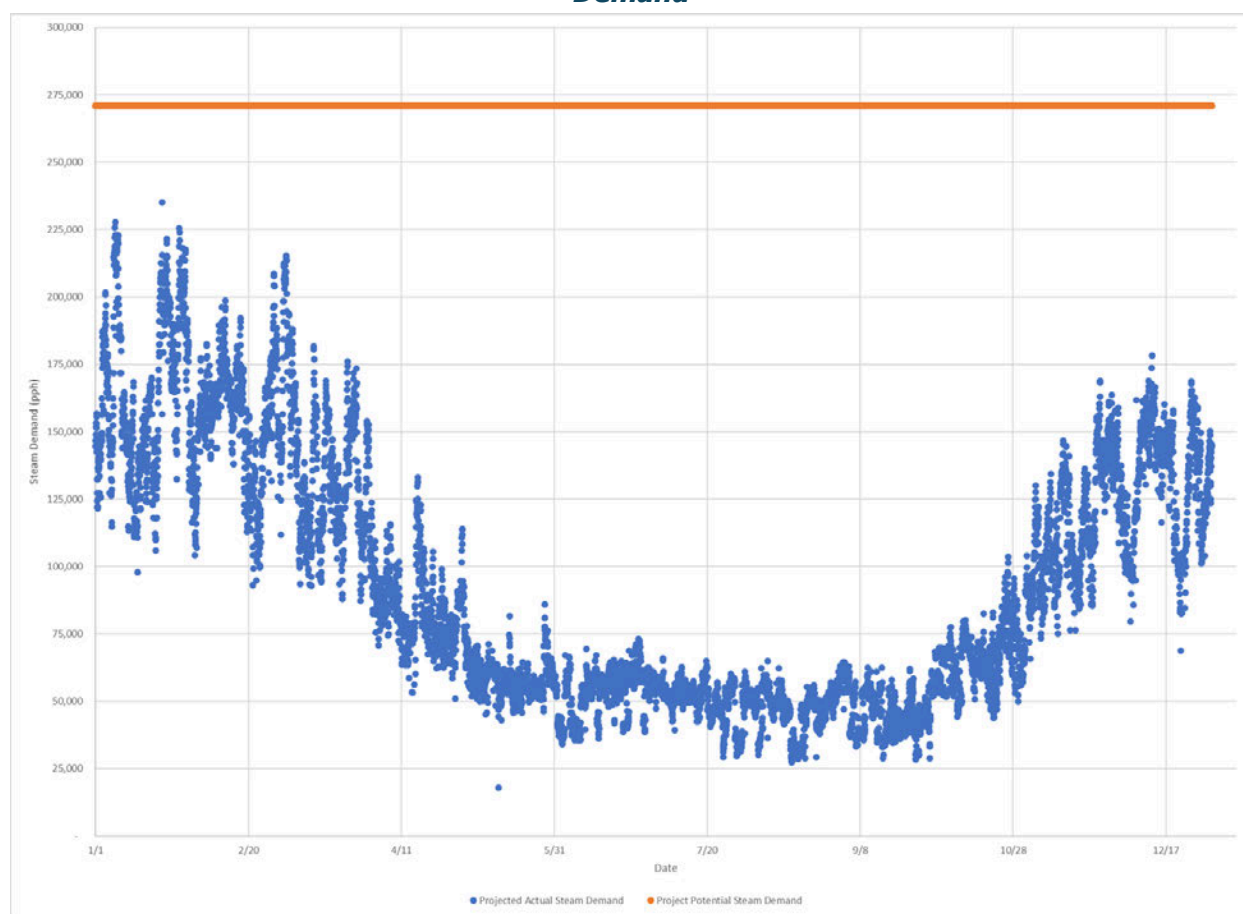
Table 2-1. Project NextGen Scope and Overall Schedule

Emission Unit ID	Emission Unit Description	Action	Proposed Timeline
N/A	Five (5) interim mobile boilers authorized under Air Quality Permit to Construct 033-0010-5-1709	Install and Start Operation	Third-Fourth Quarter, 2024
EU #001-7 and EU #001-8	Two (2) 16,200 bhp (11.2 Mwe) General Electric Combustion Turbines, each equipped with a HRSG and a 126 MMBtu/hr duct burner	Decommission	Second Quarter, 2025
EU #001-2 and EU #001-4	Two (2) Union Iron Boilers with heat input rating of 157 MMBtu/hr and 117 MMBtu/hr, respectively	Decommission	Second Quarter, 2025
EU #001-6	One (1) 1,109 bhp (780 kW) Caterpillar emergency generator	Decommission	Second Quarter, 2025
EU #001-9	One (1) 95 MMBtu/hr Wabash mobile boiler	Decommission	Second Quarter, 2025
TBD	Two (2) 182.09 MMBtu/hr Rentech Boilers	Install	Fourth Quarter, 2025
TBD	One (1) 171.9 MMBtu/hr (16.5 Mwe) Solar Titan 130 Combustion Turbine equipped with a HRSG and a 92 MMBtu/hr duct burner	Install	First Quarter, 2026
TBD	One (1) new 2,346 hp (1,750 kW) emergency generator	Install	First Quarter, 2026
TBD	New Equipment (Two boilers, one CT with HRSG and DB, and one emergency generator)	Commissioning	Third Quarter 2026
N/A	Five (5) interim mobile boilers authorized under Air Quality Permit to Construct 033-0010-5-1709	Decommission	First Quarter, 2027 (The Interim Boilers are expected to cease operation in the fourth quarter of 2026)

2.3 Emissions Reductions from the Project

This proposed project is expected to result in improved efficiency and lower air emissions from the CEP. The equipment being retired is being replaced with newer, more efficient equipment. Emissions values shown throughout this application represent worst-case emissions per USEPA and MDE air quality regulations (that is, if the equipment ran 24 hours a day, 7 days a week, and 365 days a year or at a level of operation that is below the worst-case emissions but higher than expected actual emissions). This is required in order for MDE to adequately plan when assessing industrial growth in a region at a conservative level for the protection of human health and the environment. To better demonstrate the environmental benefit of this project, Figure 2-1 compares the actual steam demand of the university to the project's maximum steam demand used as the basis for requested project emission limits.

Figure 2-1. Project Worst-Case Operational Steam Demand vs Projected Actual Steam Demand



As shown in the graph, the actual steam demand is significantly lower than the maximum steam demand used as a basis for the requested project emission limits, indicating that actual emissions will also be much lower than the requested project emission limits. The actual emissions from the CEP improvements proposed as part of the project are expected to achieve a reduction of approximately 23% in greenhouse gases (GHG) emissions on an annual actual basis, which is the reduction that was noted in the Board of Public Works meeting held on May 15, 2024. In addition, the requested project emissions limits are below the current Title V operating permit emissions limits established for the existing equipment at the CEP. As such, the proposed project results in not only

improvement from an operational standpoint (i.e., more efficient equipment), it is an overall improvement on an environmental basis compared to the existing equipment at the CEP.

3. Emission Calculations

The following sections provide a description of the basis of the emissions estimates for the new equipment associated with the proposed project.

3.1 New Equipment Emissions Calculation Methodology

3.1.1 Two (2) 182.09 MMBtu/hr Boilers

Two (2) new natural gas- and ULSD-fired boilers will be installed to supplement the steam needs of the campus. Emissions of NO_x and CO from these units are based on vendor data. For other pollutants, emission factors from AP-42 Table 1.4-2 were used (during natural gas firing) and AP-42 Tables 1.3-1, 1.3-2, 1.3-3 and 1.3-6 (during fuel oil firing). Emissions of hazardous air pollutants (HAPs) are based on the emission factors available in AP-42 Tables 1.4-3 and 1.4-4 (during natural gas firing) and AP-42 Tables 1.3-8 and 1.3-10 (during fuel oil firing).

Emissions of GHGs are based on the emission factors presented in 40 CFR 98, Table C-1 and C-2 and the emissions of GHGs as carbon dioxide equivalent (CO₂e) were developed based on the GHG species' global warming potentials (GWPs) presented in 40 CFR 98, Table A-1.

The two (2) boilers will also have integrated pilot burners capable of being turned down to 9.25 MMBtu/hr. The boilers' operation in this mode is referred to as "pilot mode". Operation in the pilot mode provides the advantage of expediting the startup of the steam boilers and eliminating the need to keep the boilers running at some low load. Some level of operation in the pilot mode is needed to meet the contractual obligation of restoring steam pressure to the system within 15 minutes of loss of pressure.

Emissions of NO_x, volatile organic compounds (VOC), and CO for operation in the pilot mode are based on vendor data. For other pollutants, emission factors from AP-42 Table 1.4-2 were used. Emissions of HAPs are based on the emission factors available in AP-42 Tables 1.4-3 and 1.4-4. Emissions of GHGs are based on the emission factors presented in 40 CFR 98, Table C-1 and C-2 and the emissions of GHGs as CO₂e were developed based on the GHG species' GWPs presented in 40 CFR 98, Table A-1.

3.1.2 One (1) Solar Titan 130 Combustion Turbine with HRSG and Duct Burner

A new natural gas- and ULSD-fired combustion turbine with an associated natural gas fired only duct burner will be added as part of the project to supplement the steam needs of the campus. Emissions of NO_x, VOC and CO for the combustion turbine are based on vendor data. Emissions of other criteria pollutants from the combustion turbine are based on AP-42 Table 3.1-2a. Emissions of NO_x, VOC, particulate matter (PM), and CO for the duct burner are based on vendor data. Emissions of other criteria pollutants from the duct burner are based on AP-42 Table 1.4-2.

Emissions of HAPs are based on the emission factors available in AP-42 Tables 3.1-3, 3.1-4, 3.1-5 (combustion turbine) and AP-42 Tables 1.4-3, 1.4-4 (duct burner firing natural gas).

Emissions of GHGs are based on the emission factors presented in 40 CFR 98, Table C-1 and C-2 and the emissions of GHGs as CO₂e were developed based on the GHG species' GWPs presented in 40 CFR 98, Table A-1.

3.1.3 One (1) 2,346 hp (1,750 kWm) Emergency Generator

A new diesel-fired 2,346 hp (1,750 kWm) emergency generator will be installed to provide backup power to the facility. The emissions from the emergency generator are based on 100 hours per year per the annual operating limit for emergency engines under NSPS Subpart IIII. The proposed emergency generator will be equipped with a Tier 2 certified engine.

Emissions of NO_x, CO, PM, and hydrocarbons (HC) are based on the emission guarantees. Emissions of sulfur dioxide (SO₂) are based on AP-42 Table 3.4-1 and the sulfur content of ULSD (15 ppmw or 0.0015% S). Emissions of HAPs are based on AP-42 Tables 3.4-3 and 3.4-4.

Emissions of GHGs are based on the emission factors presented in 40 CFR 98, Table C-1 and C-2 and the emissions of GHGs as CO₂e were developed based on the GHG species' GWPs presented in 40 CFR 98, Table A-1.

3.1.4 Interim Boilers

Five (5) natural gas- and ULSD-fired interim boilers have been installed to supplement the steam needs of the campus during the construction of the new equipment associated with the project. Emissions are based on a combination of vendor data and AP-42 [AP-42 Section 1.4 (during natural gas firing) and AP-42 Section 1.3 (during fuel oil firing)]. Emissions of HAPs are based on the emission factors available in AP-42 Tables 1.4-3 and 1.4-4 (during natural gas firing) and AP-42 Tables 1.3-8 and 1.3-10 (during fuel oil firing).

Emissions of GHGs are based on the emission factors presented in 40 CFR 98, Table C-1 and C-2 and the emissions of GHGs as CO₂e were developed based on the GHG species' GWPs presented in 40 CFR 98, Table A-1.

3.2 Requested Project Emissions Limits

It is not expected that all the new equipment associated with the project, including the interim boilers, will be running at full load for 8,760 hours per year. This level of operation would not only generate more steam than the campus can utilize, but it would exceed the capacity of the existing steam distribution system. At the same time, UMD would like the operational flexibility of running either individual pieces of the new and/or interim equipment, as well as various combinations of the new and/or interim equipment at either full or partial load capacities (or out of service if equipment repairs need to be conducted). As such, an operating scenario has been developed as the basis of the requested project emission limits for the project using the following key parameters which will allow operational flexibility between equipment type and load, as well as allow no disruption in the steam provided to the campus:

- contractually obligated steam service over a 33-year operating period (based on the expected life of the new equipment associated with the project);
- campus growth;
- extreme weather events due to climate change; and

- possibility of the interim boilers operating beyond the 2-year period to account for any potential delays in construction and/or operation of the new equipment.

MEIP and UMD have entered into a contractual agreement whereby the CEP's total steam delivery capacity over the 33-year operating period is required to be no less than 260,000 lb/hr with a minimum steam pressure at the delivery points of 90 pounds per square inch gauge ("PSIG") after excluding the largest single steam producing equipment. In order to meet this contractual requirement, MEIP's design includes the three steam producing pieces of equipment, each rated for approximately 150,000 pounds per hour. Throughout the year, based on operating conditions, each of the steam producers may operate at partial load.

Student enrollment at UMD has increased from 33,189 students in 2000 to 40,792 students in 2022.⁴ Enrollment is expected to continue to grow over the next several decades. UMD will need to support this growth by expanding the use of the existing buildings and introducing new buildings to campus (dormitories, dining halls, classrooms, office buildings, laboratories, and other research facilities). The university's Campus Facilities Plan includes provisions for several new buildings over the expected life of the CEP. This growth is expected to increase the university's heating and cooling demand. Therefore, load on the project's power and steam generating equipment will potentially need to increase to be able to meet the higher demand.

Coupled with the growth, the university is expected to continue to see extreme weather events, such as polar vortexes, due to climate change. Though extreme cold weather events do not last over extended periods, they need to be considered when planning for fuel consumption of the project power and steam generation equipment. For example, a polar vortex can lower temperatures 20-30 °F below normal temperatures. A standard brick wall (brick, insulation, dry wall) will see a roughly 50% increase in heat loss when the outdoor temperature decreases from 30 °F to 10 °F. In this example, to maintain a comfortable temperature (70 °F), the steam generating equipment output would increase which in turn will result in more fuel combustion than on a normal cold day.

Lastly, while the project team is working towards meeting the 2-year timeline for operation of the interim boilers, there may be project delays that force keeping the interim boilers operational beyond the two years. This could include any delays in construction of the new equipment or potentially operating at some capacity with the new equipment if there are any issues with the installation and/or startup of the new equipment.

These design elements and future operational uncertainties were taken into consideration with the design of the new equipment associated with the project, as well as the development of the worst-case operational level. As such, UMD is expecting the worst-case operational level to be a production level of 271,000 lb/hr of steam to account for equipment and demand uncertainties. The requested project emission limits are based on this steam production level and the worst-case combination of equipment between the new equipment and the interim boilers. As such, UMD is requesting that the requested project emission limits apply to all project emission sources, including

⁴ University of Maryland Campus Facilities Plan, November 2023, https://facilities.umd.edu/sites/default/files/2023-11/UMD%20CFP_Final%20Report_No%20Exec%20Summary%20-%20FINAL_webview.pdf

the interim boilers. UMD requests that compliance with the requested project emission limits be demonstrated monthly on a 12-month rolling basis.

Table 3-1. Requested Project Emission Limits

Pollutant	Permit Emission Limits (tpy)
NO _x	111.6
NO ₂	111.6
CO	102.9
SO ₂	5.1
VOC	13.2
PM	13.1
PM ₁₀	13.9
PM _{2.5}	13.9

4. New Source Review Analysis

4.1 New Source Review Program

New Source Review (NSR) is a federal permitting program, which requires construction permits for new major sources, or any proposed modifications at existing major sources, which results in a significant emissions increase and a significant net emissions increase of a regulated air pollutant. NSR comprises two permitting programs: Nonattainment New Source Review (NNSR) and Prevention of Significant Deterioration (PSD). NNSR permitting is applicable in areas that have been designated as nonattainment for a regulated pollutant. PSD permitting is applicable in areas that are designated as attainment or unclassifiable for a regulated pollutant. The campus is located in Prince George's County, which is designated as attainment or unclassifiable with respect to the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants except ozone, for which the county is designated as nonattainment.⁵ Therefore, NNSR is the potentially applicable permitting program for emissions of NO_x and VOC, which are the regulated precursors for ozone. PSD is the potentially applicable permitting program for all other regulated criteria pollutants.

4.2 Source Classification with Respect to NNSR and PSD

4.2.1 NNSR

NNSR regulations are codified in Title 26 of the Code of Maryland Regulations Subtitle 11 Chapter 17 (COMAR 26.11.17). Pursuant to COMAR 26.11.17.02A, NNSR is potentially applicable to sources that are new major sources and major modifications at major sources for NO_x or VOC. As defined in COMAR 26.11.17.01B(17)(a)(i), a major stationary source in Prince George's county is one which has the potential to emit 25 tons per year (tpy) or more of VOC or NO_x. Under the NNSR permitting program, major source status is on a pollutant-by-pollutant basis. UMD is an existing major source for NO_x and an existing minor source for VOC with respect to NNSR. Additionally, as defined in COMAR 26.11.17.01B(26)(a), a significant emissions increase that determines whether a project results in a major modification for NO_x is 25 tpy for sources in Prince George's County.

4.2.2 PSD

PSD is the permitting program potentially applicable for all regulated criteria pollutants for which the area is designated as attainment or unclassifiable. MDE has adopted the federal PSD rules by reference (COMAR 26.11.06.14). The PSD regulations apply to new major stationary sources or to major modifications at existing major stationary sources. Major stationary sources are sources belonging to any one of the 28 source categories listed in the regulations that have the potential to emit more than 100 tpy of any PSD-regulated pollutant, or any other source which has the potential to emit more than 250 tpy of any PSD pollutant. Under the PSD permitting program, if you are major for one PSD pollutant, then you are considered a major source for all PSD pollutants. A major modification is defined as "any change to a major stationary source that would result in a significant emissions increase and a significant net emissions increase of any pollutant subject to regulation under the Act." A project is not a major modification if it does not cause a significant emissions

⁵ The entire state of Maryland is located in the Ozone Transport Region [40 CFR 81.457] which is treated as ozone nonattainment for permitting purposes.

increase or a significant net emissions increase. Major modifications must meet certain pre-construction review and permitting requirements.

UMD is a major source under the PSD regulations because facilities containing fossil fuel boilers totaling more than 250 MMBtu/hr heat input are one of the 28 listed categories, and UMD has the potential to emit more than 100 tpy of one or more of regulated criteria pollutants (in this instance CO and NO₂).

Accordingly, the project must be evaluated to determine whether the emission increases and net emission increases from the project exceed the applicable significant emission rate (SER) in 40 CFR 52.21(b)(23)(i) for each PSD regulated pollutant.

4.3 New Source Review Applicability

4.3.1 Project Emissions Accounting Rule

An existing major stationary source (such as UMD with the exception of VOC) proposing a physical change or a change in its method of operation is required to determine whether the proposed project is a major modification subject to the NSR preconstruction permitting requirements by following a two-step applicability assessment. The first step (Step 1) is to determine if there is a "significant emission increase" of a regulated NSR pollutant from the proposed modification. If there is, the second step (Step 2) is to determine if there is a "significant net emission increase" of that pollutant. That is, Step 1 considers the effect of the project alone and Step 2 considers the effect of the project and any other emissions changes at the major stationary source that are contemporaneous to the project (i.e., generally within a five-year period) and creditable. Major NSR permitting applies only if there is a significant emissions increase AND a significant net emissions increase (both Steps 1 and 2 result in emissions over the applicable thresholds).

On November 24, 2020, the USEPA finalized clarifications noting that both emission increases and decreases from a project are allowed to be considered in Step 1 of the two-step NSR applicability test (known as the Project Emissions Accounting rule). This finalized rule is applicable to permitting authorities that have been delegated federal authority from USEPA to issue NSR permits, such as MDE. In addition, on May 3, 2024, the USEPA published proposed revisions to the Project Emissions Accounting rule. The proposed regulatory revisions:

- Clarify the definition of the term "project" to read "a discrete physical change in, or change in the method of operation of, an existing major stationary source, or a discrete group of such changes (occurring contemporaneously at the same major stationary source) that are substantially related to each other. Such changes are substantially related if they are dependent on each other to be economically or technically viable."
- Strengthen the monitoring, recordkeeping and reporting provisions in the NSR regulations to improve compliance with, and enforcement of, the NSR applicability process for minor modifications at existing major stationary sources.
- Require that emissions decreases included in the first step of the process to determine if NSR applies to a project be enforceable.

As discussed with MDE, UMD is incorporating the final and proposed Project Emissions Accounting rule provisions in this NSR applicability analysis for all pollutants except VOC since UMD is a minor

source for VOC emissions under the NNSR program. The remaining part of this section outlines the applicability analysis in accordance with the Project Emissions Accounting rule. Section 4.4 outlines how UMD will meet the recordkeeping and reporting requirements in accordance with the Project Emissions Accounting rule, as well as the requirement for the emissions decreases to be enforceable.

Step 1 calculates the emissions changes (increases and decreases) from the emissions units that are affected by the proposed project. As such, the Step 1 calculation for the proposed project considers the overall emission changes resulting from the following project elements:

- Retirement or decommissioning of the existing CEP sources (EU #001-7, EU #001-8, EU #001-2, EU #001-4, EU #001-6, and EU #001-9);
- Installation of the proposed new permanent units (two boilers, one combustion turbine, one HRSG/duct burner, and one emergency generator); and
- Operation of the interim boilers authorized under the interim boiler permit (Permit No. 033-0010-5-1709).

The purpose of the interim boilers is to meet the steam demand while the existing equipment is being decommissioned and the new equipment is being installed. As such, the interim boilers serve the same purpose as the existing and new equipment. The interim boilers will be removed after the project is completed. The interim boilers and the project are occurring contemporaneously at the same major stationary source and are substantially related. Therefore, UMD is including the interim boilers as part of the “project” in Step 1 of the NSR applicability analysis.

UMD is proposing federally enforceable emissions limits for the new equipment associated with the project and the interim boilers (see Section 3.2). Federally enforceable emission limits can be considered in calculated potential to emit (PTE). As such, the PEI is calculated as the difference between the PTE (calculated using the requested project emission limits) and the Baseline Actual Emissions (BAE) for the existing emission units being decommissioned.

$$PEI = PTE_{\text{(new units and interim boilers)}} - BAE_{\text{(retired units)}}$$

As described further below, NNSR and PSD applicability determination involves comparison of the PTE from a project or projects (Step 1) to the pollutant-specific PSD and NNSR SERs/major stationary source thresholds (MSTs).

4.3.2 Baseline Actual Emissions (BAE)

For NNSR emissions accounting purposes, COMAR 26.11.17.01B(3)(c) defines baseline actual emissions for an existing emissions unit as “the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding the date on which a complete application was submitted.” MDE can allow a 24-month consecutive time period, within the last 10 years, upon a demonstration that it is more representative of normal source operations.

Baseline actual emissions for PSD are “the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the

project, or the date a complete permit application is received by the Administrator for a permit required under this section or by the reviewing authority for a permit required by a plan, whichever is earlier, except that the 10-year period shall not include any period earlier than November 15, 1990.” [40 CFR 52.21(b)(48)(ii)]

The baseline emissions for the new sources proposed as part of the project are zero since they have no historical emissions.

For the existing emission units proposed to be shut down as part of this project, emissions data reported to MDE for the period from January 2020 through December 2023 was reviewed. Based on the data, the highest 24-month period is from September 2020 through August 2022. Given the numerous operational issues with the facility over the last several years, this period was selected as being the most indicative of actual full operation of the existing facility. The same baseline period was used for all pollutants and all emission units involved in the project. A summary of the baseline emissions analysis is provided in Appendix A.

4.3.3 Requested Project Emission Limits

As discussed in Section 3.2, in order to preserve flexibility and optimize operation of the CEP, UMD is requesting federally enforceable emission limits for the new equipment and the interim boilers to maintain the project emissions increase below the applicable thresholds. These requested project emission limits are presented in Table 3-1 above.

4.4.4 NSR Applicability Analysis

As shown in Table 4-1, the PEIs are all less than the PSD and NNSR SERs/MSTs. Therefore, no further analysis (i.e., Step 2) is required and the project does not require major NSR permitting under the NNSR or PSD programs. The project will be authorized under a minor source Permit to Construct issued by MDE. Detailed emissions calculations can be found in Appendix A.

Table 4-1. NNSR/PSD Applicability Determination

Parameter	Annual Emissions (tpy)								
	NO _x	NO ₂	CO	SO ₂	VOC	PM (Filt)	PM ₁₀ (Total)	PM _{2.5} (Total)	CO _{2e}
Proposed Project Emission Limits	111.6	111.6	102.9	5.1	13.2	13.1	13.9	13.9	205,414
Emissions Decreases from Existing Emission Units Proposed to be Decommissioned	119.1	119.1	8.5	5.1	N/A	5.6	5.6	5.6	131,572
Project Emissions Increase (PEI)	-7.5	-7.5	94.3	-0.03	13.2	7.5	8.4	8.3	73,841
PSD and NNSR SERs/MSTs ¹	25	40	100	40	25	25	15	10	75,000
Above SER Threshold?	No	No	No	No	No	No	No	No	N/A ²

1. PSD SERs are provided in 40 CFR 52.21(b)(23)(i). NNSR SERs/MSTs for NO_x and VOC are based on COMAR 26.11.17.01.

2. PSD review cannot be triggered for CO_{2e} alone. PSD review only potentially applies if the modification triggers PSD review for another pollutant [40 CFR 52.21(b)(49)(iv)].

4.4.1 Compliance with the Proposed 2024 Project Emissions Accounting Rule Revisions

UMD has followed the revised definition of "project" in the proposed 2024 Project Emissions Accounting rule while performing the major NSR applicability analysis for this project as described in Section 4.3. UMD will also comply with the enhanced recordkeeping and reporting requirements in the proposed Project Emissions Accounting rule as this project is a minor modification at a major stationary source. As shown in Table 4-2, this application and subsequent issuance of a permit fulfills the recordkeeping requirements of this rule.

Table 4-2. Project Emissions Accounting Rule Requirements

Requirement	Location of Information
Name of the project	NextGen Project
Project's intended objectives	Refer to Sections 1 and 2 of this application
Each physical change associated with the project's objectives	Refer to Sections 1 and 2 of this application
Estimated timeline of construction and regular operation	Refer to timelines in application forms and Table 2-1
Identification of the emission units whose emissions of a regulated NSR pollutant could be affected by the project	Refer to Section 2.1 of this application
Description of the applicability test used to determine that the project is not a major modification for any regulated pollutant	Refer to Section 4 of this application
Notification to MDE of the information above	This application fulfills this requirement
Requirement to monitor the emissions of the regulated NSR pollutants emitted by the new equipment associated with the project and the interim boilers to demonstrate compliance monthly	Monitoring requirement to be included in issued Permit to Construct. UMD proposed to calculate rolling 12-month emissions totals on a monthly basis.
Federally enforceable emission reductions of the decommissioned emission units that contribute to the BAE, which will be physically demolished and removed from the site	UMD requests conditions in the Permit to Construct requiring the removal/decommissioning of the existing equipment as detailed in Section 2.1.2

5. State and Federal Regulatory Applicability

This section summarizes the applicable federal and state regulations to the proposed project at the campus. Federal and state applicability is evaluated for the project sources at the campus.

5.1 State Regulatory Requirements

5.1.1 COMAR 26.11.02.09 – Sources Subject to Permits to Construct and Approvals

This regulation applies to the construction or modification of potential air emission sources. Air Quality Permits to Construct are required before construction or modification can begin for various source types. The new equipment associated with the proposed project requires a Permit to Construct since the project sources do not meet any of the exemption criteria in COMAR 26.11.02.10. Submittal of this permit to construct application meets the requirements of this section.

The Public Service Commission of Maryland ("Commission") is required, pursuant to the Public Utilities Article of the Annotated Code of Maryland, to grant its approval prior to the construction of a generating station in Maryland. The Public Utilities Article mandates one of two types of authorization prior to commencing the construction of a generation station of greater than 2,000 kW (or equal to or greater than 2,000 kW if generating electricity from a solar photovoltaic system). Large generating stations constructed to serve load in a regional market require a Certificate of Public Convenience and Necessity ("CPCN") under Public Utilities Articles §7-207 and §7-208. However, Public Utilities Article § 7-207.1 provides that certain power generation projects are exempt. Since the proposed 16.5 MWe Solar Titan 130 Combustion Turbine is greater than 2,000 kW, a CPCN exemption application was submitted by UMD to the Commission. The Commission approved the CPCN exemption on September 5, 2024. A copy of the approved CPCN exemption is attached in Appendix G.

5.1.2 COMAR 26.11.02.11 – Procedures for Obtaining Permit to Construct for Significant Sources

COMAR 26.11.02.11 delineates specific procedures governing applications for permits to construct for certain significant sources of regulated air pollutants as defined under COMAR 26.11.02.11A(1). The NexGen project will construct NSPS and NESHAP-regulated sources and as such is subject to the provisions requiring submittal of an application for a permit to construct covering the project. Therefore, prior to commencing construction, UMD is required to obtain the necessary construction approvals via submittal of an administratively complete application that contains the information required under COMAR 26.11.02.11D.

5.1.3 COMAR 26.11.02.13 – Sources Subject to State Permit to Operate

COMAR 26.11.02.13 does not require facilities to obtain a state operating permit for sources that are covered by a Part 70 permit. UMD operates under Title V operating permit No. 24-033-0010. However, this project may be subject to a state permit to operate until the project

is incorporated into the Title V operating permit. The new emission units can operate as an off-permit change to the Title V operating permit in the interim.

5.1.4 COMAR 26.11.03 – Permits, Approvals, and Registration – Title V Permits

UMD operates under Title V operating permit No. 24-033-0010. The current Title V permit expires on September 30, 2027. The project can operate as an off-permit change to the Title V operating permit. UMD will be required to submit a permit modification application for the Title V operating permit in accordance with the permit conditions in the issued permit to construct for the proposed project.

5.1.5 COMAR 26.11.06 – General Emission Standards, Prohibitions, and Restrictions

UMD is subject to the nuisance and odors subsections (COMAR 26.11.06.08 and .09, respectively) of this regulation and will comply with the applicable requirements therein.

COMAR 26.11.06.08 (Nuisance) requires that "An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be construed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution."

COMAR 26.11.06.08 (Odors) requires that "A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created."

5.1.6 COMAR 26.11.09 – Control of Fuel-Burning Equipment, Stationary Internal Combustion Engines, and Certain Fuel-Burning Installations

COMAR 26.11.09 regulates visible emissions, SO₂, and NO_x from new fuel-burning equipment constructed in the state of Maryland. The two new boilers, the combustion turbine and duct burner, and the emergency generator meet the definition of fuel burning equipment and are subject to the requirements of this chapter. UMD will comply with the requirements of this chapter for the new sources.

5.1.7 COMAR 26.11.10 – COMAR 26.11.14 – Categorically Inapplicable

5.1.8 COMAR 26.11.15 and .16– Toxic Air Pollutants

The provisions of COMAR 26.11.15 regulate emissions of any Class I or Class II toxic air pollutant (TAP) into the ambient air from any installation or new source if the source meets certain applicability criteria under the regulation. However, pursuant to COMAR 26.11.15.03B(2)(a), since the project only emits TAP emissions from "fuel burning equipment", the project and its associated equipment are therefore exempt from the requirements of COMAR 26.11.15 and COMAR 25.11.16.

5.1.9 COMAR 26.11.17 – COMAR 26.11.35 – Categorically Inapplicable

5.1.10 COMAR 26.11.36 – Distributed Generation

The provisions of COMAR 26.11.36 apply to owners and operators of engines and curtailment service providers. The only requirements under COMAR 26.11.36 for the proposed emergency engine are to comply with the federal engine rules (40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ).

5.1.11 COMAR 26.11.37 – COMAR 26.11.43 – Categorically Inapplicable

5.2 Federal Regulatory Applicability

5.2.1 New Source Performance Standards (NSPS)

The following subparts of the NSPS, codified at 40 CFR 60, are evaluated for potential applicability to the proposed project.

5.2.1.1 NSPS Subpart A – General Provisions

Sources subject to source specific NSPS are also subject to the general provisions of NSPS Subpart A that contain the initial notification requirements, initial startup notifications, performance tests, general monitoring, recordkeeping, and reporting requirements.

5.2.1.2 NSPS Subpart Db or Dc – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units or Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

NSPS Subpart Db applies to any steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 MMBtu/hr). The two boilers are each rated at 182.09 MMBtu/hr on natural gas and 175.08 MMBtu/hr on fuel oil and are therefore subject to NSPS Subpart Db. NSPS Subpart Db contains emissions standards for SO₂, NO_x and PM.

Since the boilers will burn ULSD and natural gas, they are exempt from the SO₂ emissions standard under NSPS Subpart Db [40 CFR 60.42b(k)(2)] and the PM emissions standard under NSPS Subpart Db [40 CFR 60.43b(h)(5)]. Per 40 CFR 60.44b(a), natural gas- and distillate oil-fired boilers that are “high heat release rate”⁶ units are subject to a NO_x emission standard of 0.20 lb/MMBtu. UMD will install, calibrate, maintain, and operate continuous emission monitoring systems (CEMS) for measuring NO_x and either O₂ or CO₂ emissions discharged to the atmosphere, as required by 40 CFR 60.48b(b)(1), to demonstrate compliance with the NO_x emission standard. Per 40 CFR 60.49b(r)(1), UMD will maintain fuel receipts demonstrating the combustion of low sulfur and low ash content fuels burned in these boilers.

⁶ *High heat release rate* means a heat release rate greater than 730,000 J/sec-m³ (70,000 Btu/hr-ft³). The proposed boilers have a volumetric heat release rate greater than 70,000 Btu/hr-ft³.

NSPS Subpart Dc applies to a steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 MMBtu/hr) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr). The proposed duct burner is rated at 92 MMBtu/hr and is potentially subject to NSPS Subpart Dc. However, because the duct burner is part of the combustion turbine system, it is instead subject to NSPS Subpart KKKK [40 CFR 60.4305(a) and (b)].

5.1.2.3 NSPS Subpart Kb – Volatile Organic Liquid Storage Vessels

NSPS Subpart Kb is applicable to storage vessels for which construction, modification or reconstruction commenced after July 23, 1984, with storage capacities greater than or equal to 75 m³ (19,812 gallons) and that store volatile organic liquids (VOL). No new VOL storage tanks are being proposed as part of this project and as such, NSPS Subpart Kb is not applicable.

5.1.2.4 NSPS Subpart Kc – Volatile Organic Liquid Storage Vessels

NSPS Subpart Kc is applicable to storage vessels for which construction, modification or reconstruction commenced after October 4, 2023, with storage capacities greater than or equal to 75.7 m³ (20,000 gallons) and that store volatile organic liquids (VOL). No new VOL storage tanks are being proposed as part of this project and as such, NSPS Subpart Kc is not applicable.

5.1.2.5 NSPS Subpart IIII – NSPS for Stationary Compression Ignition Internal Combustion Engines

NSPS Subpart IIII applies to stationary compression-ignition internal combustion engines manufactured in 2007 or later. The proposed standby generator (2,346 hp) will be subject to NSPS Subpart IIII. Per NSPS Subpart IIII, UMD must operate the engine in compliance with the emergency engine emission standards set forth in 40 CFR 60.4204 for non-methane hydrocarbons plus NO_x, CO, and PM.

UMD proposes to comply with NSPS Subpart IIII by purchasing a USEPA Tier II engine certified by the manufacturer and equipped with a non-resettable hour meter, by installing and configuring the engine per the manufacturer's specifications, and by operating and maintaining the engine consistent with the manufacturer's instructions. Additionally, diesel fuel purchased will have a maximum sulfur content of 15 ppmw. The standby generator will operate for no more than 100 hours per year for maintenance and testing. Of the 100 hours per year, 50 hours per year can be used for non-emergency operation. The 50 hours per calendar year for non-emergency situations will not be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity, except under specific conditions [40 CFR 60.4211(f)].

5.1.2.6 NSPS Subpart KKKK – NSPS for Stationary Combustion Turbines

NSPS Subpart KKKK applies to stationary combustion turbines⁷ (and associated HRSGs and duct burners) that commence construction after February 18, 2005, and that have a heat input at peak load that is equal to or greater than 10 MMBtu per hour, based on the higher heating value of the fuel.

The proposed combustion turbine will have a peak load heat input of greater than 50 MMBtu/hr but less than 850 MMBtu/hr. Pursuant to Table 1 in NSPS Subpart KKKK, new natural gas-fired combustion turbines in this size range are subject to a NO_x emission limit of 25 ppm at 15 percent oxygen (O₂) or 1.2 pound per megawatt-hour (lb/MWh). During fuel oil firing, the new combustion turbine is subject to an emission standard of 74 ppm @ 15% O₂ or 3.6 lb/MWh. UMD will comply with the testing and monitoring requirements of this subpart.

NSPS Subpart KKKK specifies that the proposed combustion turbine can either comply with an SO₂ emission limit of 0.9 lb/MWh gross output or must not burn in any fuel which contains total potential sulfur emissions in excess of 0.060 lb SO₂/MMBtu heat input. Pipeline natural gas and ULSD are the fuels proposed for the combustion turbine and HRSG/duct burner and UMD will comply with the fuel monitoring requirements of this subpart.

Note that NSPS Subpart GG is not applicable to the combustion turbine since it is subject to NSPS Subpart KKKK [40 CFR 60.4305(b)].

5.1.2.7 NSPS Subpart TTTT – NSPS for Greenhouse Gas Emissions for Electric Generating Units

NSPS Subpart TTTT applies to stationary combustion turbines that commence construction after January 8, 2014 but on or before May 23, 2023, or commences reconstruction after June 18, 2014, but on or before May 23, 2023 and have a base heat input rating greater than 250 MMBtu/hr and serve a generator capable of selling 25 MW of electricity to a utility power distribution system.

The proposed combustion turbine is not greater than 250 MMBtu/hr in size and will not serve a generator capable of selling 25 MW of electricity to a power distribution system and as such is not an affected source under this rule.

5.1.2.8 NSPS Subpart TTTTa – Standards of Performance for Greenhouse Gas Emissions for Modified Coal-Fired Steam Electric Generating Units and New Construction and Reconstruction Stationary Combustion Turbine Electric Generating Units

NSPS Subpart TTTTa applies to stationary combustion turbines that commence construction or reconstruction after May 23, 2023 and have a base heat input rating greater than 250 MMBtu/hr and serve a generator capable of selling 25 MW of electricity to a utility power distribution system. The proposed combustion turbine is not greater than 250 MMBtu/hr in size and will not

⁷ Only heat input to the combustion turbine is included in applicability determination. Any additional heat input to the associated HRSG or duct burners is not used in determining the unit's peak heat input. However, if this subpart is applicable to the combustion turbine, NSPS Subpart KKKK does apply to emissions from any associated HRSG and duct burners.

serve a generator capable of selling 25 MW of electricity to a power distribution system and as such is not an affected source under this rule.

5.2.2 National Emission Standards for Hazardous Air Pollutants (NESHAP)

5.2.2.1 NESHAP Subpart A – General Provisions

Sources subject to source specific NESHAP are also subject to the general provisions of NESHAP Subpart A that contain the initial notification requirements, initial startup notifications, performance tests, general monitoring, recordkeeping, and reporting requirements.

5.2.2.2 NESHAP Subpart YYYY – Stationary Combustion Turbines

NESHAP Subpart YYYY provides HAP emission limitations, operating limitations, and compliance requirements for stationary combustion turbines located at major sources of HAPs. UMD is not a major source of HAPs and therefore, the proposed combustion turbine is not subject to NESHAP Subpart YYYY.

5.2.2.3 NESHAP Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines (RICE)

NESHAP Subpart ZZZZ provides HAP emission limitations and operational limitations for stationary RICE including emergency engines located at major or area sources of HAP. The proposed 2,346 hp diesel-fired emergency generator is subject to NESHAP Subpart ZZZZ and will comply with the NESHAP via compliance with NSPS Subpart IIII [40 CFR 63.6590(c)].

5.2.2.4 NESHAP Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

NESHAP Subpart DDDDD establishes emission limitations and work practice standards for HAP emitted from industrial, commercial, and institutional boilers and process heaters located at major sources of HAP. UMD is not a major source of HAPs and therefore, the proposed boilers are not subject to NESHAP Subpart DDDDD.

5.2.2.5 NESHAP Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, Institutional Boilers Area Sources

NESHAP Subpart JJJJJ establishes emission limitations and work practice standards for HAP emitted from industrial, commercial, and institutional boilers and process heaters located at area sources of HAP. UMD is an area source of HAP and the proposed Rentech boilers and the HRSG duct burner are potentially subject to NESHAP Subpart JJJJJ.

However, per 40 CFR 63.11195(e), gas-fired boilers are exempt from the requirements of NESHAP Subpart JJJJJ. Pursuant to 40 CFR 63.11237, a gas-fired boiler "includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year." Since UMD is proposing to limit operation on fuel oil to no more than 48 hours/year for the proposed Rentech boilers, the proposed Rentech boilers are exempt from the requirements of NESHAP Subpart JJJJJ.

The duct burner meets the definition of a waste heat boiler under NESHAP Subpart JJJJJ and waste heater boilers are excluded from the definition of a boiler (40 CFR 63.11237). As such, the duct burner is not an affected source under NESHAP Subpart JJJJJ.

5.2.3 Title V Operating Permits – 40 CFR 70

The facility currently operates under Title V operating permit No. 24-033-0010 issued December 12, 2022 by MDE and that expires on September 30, 2027. The emission units permitted under this proposed project will be incorporated into the Title V operating permit.

5.2.4 Acid Rain Program – 40 CFR 72 - 78

Title IV authorizes the EPA under the Acid Rain Program (40 CFR 72 through 78) to achieve reductions of SO₂ and NO_x emissions (acid rain causing pollutants). The proposed project is not subject to the requirements listed under this rule because pursuant to 40 CFR 72.6(b)(8), a non-utility unit is not subject to this rule.

Appendix A. Emission Calculations

[The contents of this appendix have been redacted or removed due to confidential and proprietary vendor specific information.]

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Emissions Summary

Project Sources: Potential to Emit (PTE) at 8760 hours/year of Operation

Emission Unit ²	Potential Annual Emissions (tpy) ^{1,2,4}												
	NO _x	NO ₂	CO	SO ₂	VOC	PM (Filt)	PM ₁₀ (Total)	PM _{2.5} (Total)	CO ₂	CH ₄	N ₂ O	CO ₂ e	HAPs
Two (2) Rentech Boilers (NG+ULSD) - Main Mode	59.7	59.7	60.2	0.94	8.5	3.1	11.9	11.8	187,961	3.6	0.4	188,159	2.92
Two (2) Rentech Boilers (NG) - Pilot Mode	20.0	20.0	60.8	0.05	2.4	0.1	0.6	0.6	9,479	0.2	0.02	9,488	0.15
Two (2) Rentech Boilers - Worst Case PTE of Main and Pilot Mode ³	59.7	59.7	60.8	0.94	8.5	3.1	11.9	11.8	187,961	3.6	0.36	188,159	2.92
Solar Titan 130 Combustion Turbine (NG+ULSD)	43.2	43.2	43.1	2.57	5.0	1.4	5.0	5.0	88,694	1.7	0.2	88,787	0.78
Cleaver Brooks HRSB Duct Burner (NG)	40.3	40.3	33.0	0.23	4.0	0.7	3.1	3.1	47,137	0.9	0.1	47,186	0.74
Emergency / Standby Generator (ULSD)	1.4	1.4	0.2	1.3E-03	8.1E-02	2.0E-02	5.1E-02	5.1E-02	145	5.9E-03	1.2E-03	145	1.40E-03
Total Potential Emissions from Project Sources	224.3	224.3	258.0	4.7	28.6	8.5	32.5	32.4	521,377.2	9.9	1.0	521,924.1	7.5

¹ PM₁₀ and PM_{2.5} emissions include both filterable and condensable particulate matter.

PTE Scenario assumes all proposed equipment, except the emergency generator, is operating at maximum capacity for 8,760 hours per year firing natural gas.

An additional 48 hr/year was assumed for operation on ULSD for the following: boilers - 48 hours/year/unit; combustion turbine 48 hrs/yr/unit.

Emergency generator is assumed to operate at maximum load for 100 hours per year for PTE calculations.

² Emissions from the five (5) interim mobile boilers are not included in this assessment as are expected to be decommissioned after the proposed permanent equipment is commissioned.

³ Due to equipment design, the boilers and associated pilot burners cannot be operated simultaneously, i.e., the boilers cannot operate in Main Mode and Pilot Mode at the same time. If a boiler is producing steam, the pilot burner cannot operate.

⁴ The PTE values shown in this table are conservative and for informational purposes only.

Project Sources: Requested Permit Limits

Emission Unit	Annual Emissions (tpy) ^{1,2}												
	NO _x *	NO ₂ *	CO	SO ₂ ²	VOC *	PM (Filt) ²	PM ₁₀ (Total) *	PM _{2.5} (Total) *	CO ₂	CH ₄	N ₂ O	CO ₂ e	HAPs
Two (2) Rentech Boilers (NG+ULSD) - Main Mode	31.4	31.4	31.4	0.49	4.4	1.6	6.2	6.2	98,230	1.9	0.2	98,335	1.52
Two (2) Rentech Boilers (NG) - Pilot Mode	4.1	4.1	12.6	0.01	0.5	0.0	0.1	0.1	1,961	0.0	0.00	1,963	0.03
Solar Titan 130 Combustion Turbine (NG+ULSD)	33.5	33.5	33.2	1.98	3.9	1.1	3.9	3.9	68,385	1.3	0.1	68,457	0.60
Cleaver Brooks HRSB Duct Burner (NG)	31.2	31.2	25.6	0.18	3.1	0.6	2.4	2.4	36,476	0.7	0.1	36,514	0.57
Emergency / Standby Generator (ULSD)	1.4	1.4	0.2	1.3E-03	0.08	0.02	0.05	0.05	145	5.9E-03	1.2E-03	145	1.40E-03
Total Projected Actual Emissions from Project Sources	101.5	101.5	102.9	2.7	12.0	3.4	12.7	12.6	205,197	3.9	0.4	205,414	2.72
Emission Limits requested in Interim Boiler Permit Modification Submitted on November 13, 2024 ²	54.1	54.1	54.0	5.1	7.2	13.1	13.1	13.1	174,063	3.3	0.3	174,246	2.74
Requested Project Permit Limits	111.6	111.6	102.9	5.1	13.2	13.1	13.9	13.9	205,196.7	3.9	0.4	205,413.8	2.72

¹ PM₁₀ and PM_{2.5} emissions include both filterable and condensable particulate matter.

Projected actual emissions are calculated based on the expected operation of the steam producing equipment. See equipment specific pages for detailed calculations.

Emergency generator is assumed to operate at maximum load for 100 hours per year for PTE calculations as well as for the projected actual emissions calculations.

* Includes 10% factor for all pollutants except CO, SO₂, PM and greenhouse gases to account for worst-case emissions between various equipment scenarios

² Emissions from the five (5) interim mobile boilers are not included in this assessment as they are expected to be decommissioned after the proposed permanent equipment is commissioned. However, emissions of SO₂ and PM permitted for the Interim Boilers are higher than those for the permanent equipment. As such, for SO₂ and PM, the emission limits are set at the requested limits of the Interim Boilers.

Project Emissions Increase

Parameter	Annual Emissions (tpy)											
	NO _x	NO ₂	CO	SO ₂	VOC	PM (Filt)	PM ₁₀ (Total)	PM _{2.5} (Total)	CO ₂	CH ₄	N ₂ O	CO ₂ e ²
Proposed Project Permit Limits	111.6	111.6	102.9	5.1	13.2	13.1	13.9	13.9	205,197	3.9	0.4	205,414
Emissions Decreases: Existing Emission Units Proposed to be Decommissioned	119.1	119.1	8.5	5.1	-	5.6	5.6	5.6	131,433	2.5	0.3	131,572
Project Emissions Increase	-7.5	-7.5	94.3	-0.03	13.2	7.5	8.4	8.3	73,764	1.4	0.1	73,841
PSD and NNSR Significant Emission Rates (SERs) ¹	25	40	100	40	25	25	15	10	N/A	N/A	N/A	75,000
Above SER/MST Threshold?	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

1. PSD SERs are provided in 40 CFR 52.21(b)(23)(i). NNSR SERs for NO_x and VOC are based on COMAR 26.11.17.01.

2. PSD review cannot be triggered for CO₂e alone. PSD review applies if the modification triggers PSD review for another pollutant [40 CFR 52.21(b)(49)(iv)].

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Potential Emissions
Interim Boilers Boilers - Natural Gas Firing and ULSD Firing

Scenario	Potential
Fuel:	Natural
Number of Boilers:	5

Pollutant	Permitted Emissions (tpy)
<u>Criteria:</u>	
Particulate Matter - Filt only	13.07
Particulate Matter <10 microns (PM10) - Filt+Cond.	13.07
Particulate Matter < 2.5 microns (PM2.5) - Filt+Cond.	13.07
Sulfur Dioxide (SO2)	5.06
Nitrogen Oxides (NOX)	54.08
Volatile Organic Compounds (VOC)	7.15
Carbon Monoxide (CO)	53.99
<u>HAP:</u>	2.74E+00
<u>GHG 2:</u>	<u>Metric</u>
Carbon Dioxide (CO2)	157,907.00
Methane (CH4)	3.00
Nitrous Oxide (N2O)	0.30
Total CO2e	158,073.00

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Projected Operation of the New Equipment

Projected Operation		
	Hours NG	LOAD NG
CT	8,352	80.70%
HRSO	8,400	80.70%
Rentech Boiler 1	4,584	99.20%
Rentech Boiler 2	4,584	99.20%
Pilot 1	1,812	N/A
Pilot 2	1,812	N/A
*NG - Natural Gas		

Projected Operation		
	Hours ULSD	LOAD ULSD
CT	48	100.00%
HRSO	N/A	N/A
Rentech Boiler 1	48	100.00%
Rentech Boiler 2	48	100.00%
Pilot 1	N/A	N/A
Pilot 2	N/A	N/A
*ULSD - Ultra low sulfur diesel		

2. FACILITY INVENTORY LIST

Emissions Unit Number	MDE – ARA Registration Number	Emissions Unit Name and Description	Date of Installation
Central Heating Plant (CHP), Building #001			
EU #001-7	9-1081	One (1) GE model PGT-10B/1, NG/No.2 fuel oil fired 11.2 Mwe – 16,200 bhp combustion turbine equipped with a 126 MMBtu/hr. duct burner	January 2004
EU #001-8	9-1082	One (1) GE model PGT-10B/1, NG/No.2 fuel oil fired 11.2 Mwe – 16,200 bhp combustion turbine equipped with a 126 MMBtu/hr. duct burner	January 2004
EU #001-2	5-0256	One (1) NG/No. 2 fuel oil during curtailment/supply interruptions/startup/testing/training only fired 157 MMBtu/hr. Union Iron boiler	1976
EU #001-4	5-0159	One (1) NG/No. 2 fuel oil during curtailment/supply interruptions/startup/testing/training only fired 117 MMBtu/hr. Union Iron boiler	1966
EU #001-6	9-1083	One (1) diesel-fired 1,109 bhp, 780 kWe, Caterpillar emergency generator set	2004
EU-#001-9	5-1665	One (1) Wabash NG/No. 2 fuel oil during curtailment/supply interruptions/startup/testing/training only fired boiler rated at 95 MMBtu/hr. mobile boiler	2020

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Month	Year	Rolling Annualized Emissions over past 24 months (Tons)												Monthly Emissions (Tons)											
		NO _x	NO ₂	CO	SO ₂	VOC	PM (Filt)	PM ₁₀ (Total)	PM _{2.5} (Total)	CO ₂	CH ₄	N ₂ O	CO ₂ e	NO _x	NO ₂	CO	SO ₂	VOC	PM (Filt)	PM ₁₀ (Total)	PM _{2.5} (Total)	CO ₂	CH ₄	N ₂ O	CO ₂ e
January	2020													7.3	7.3	0.1	0.0	0.0	0.5	0.5	0.5	8,327	0.16	0.02	8,336
February	2020													7.8	7.8	0.7	0.3	0.2	0.4	0.4	0.4	9,215	0.17	0.02	9,225
March	2020													6.1	6.1	0.9	0.3	0.2	0.2	0.2	0.2	7,976	0.15	0.02	7,984
April	2020													6.2	6.2	0.9	0.3	0.2	0.2	0.2	0.2	7,757	0.15	0.01	7,765
May	2020													5.9	5.9	0.8	0.3	0.2	0.2	0.2	0.2	7,051	0.13	0.01	7,058
June	2020													4.7	4.7	0.5	0.1	0.1	0.3	0.3	0.3	4,293	0.08	0.01	4,297
July	2020													4.0	4.0	0.1	0.1	0.0	0.3	0.3	0.3	4,319	0.08	0.01	4,324
August	2020													10.0	10.0	0.5	0.2	0.1	0.6	0.6	0.6	10,651	0.20	0.02	10,662
September	2020													6.8	6.8	0.8	0.4	0.2	0.4	0.4	0.4	8,229	0.16	0.02	8,239
October	2020													9.6	9.6	1.0	0.5	0.2	0.6	0.6	0.6	11,374	0.24	0.03	11,389
November	2020													11.6	11.6	0.9	0.5	0.2	0.4	0.4	0.4	12,341	0.23	0.02	12,353
December	2020													13.4	13.4	1.0	0.6	0.2	0.8	0.8	0.8	15,528	0.31	0.03	15,546
January	2021													13.8	13.8	1.0	0.6	0.2	0.6	0.6	0.6	15,573	0.29	0.03	15,589
February	2021													11.3	11.3	0.9	0.5	0.2	0.5	0.5	0.5	13,042	0.25	0.02	13,056
March	2021													12.1	12.1	0.9	0.6	0.2	0.5	0.5	0.5	12,892	0.24	0.02	12,905
April	2021													8.3	8.3	0.5	0.3	0.1	0.4	0.4	0.4	9,078	0.17	0.02	9,088
May	2021													10.4	10.4	0.8	0.5	0.2	0.4	0.4	0.4	10,478	0.20	0.02	10,489
June	2021													11.5	11.5	0.8	0.5	0.2	0.4	0.4	0.4	11,509	0.22	0.02	11,521
July	2021													8.9	8.9	0.8	0.4	0.2	0.4	0.4	0.4	9,651	0.18	0.02	9,661
August	2021													7.6	7.6	0.3	0.3	0.1	0.4	0.4	0.4	8,550	0.16	0.02	8,559
September	2021													6.8	6.8	0.3	0.3	0.1	0.3	0.3	0.3	8,014	0.15	0.02	8,022
October	2021													6.2	6.2	0.1	0.1	0.0	0.5	0.5	0.5	6,922	0.13	0.01	6,930
November	2021													8.9	8.9	0.3	0.3	0.1	0.6	0.6	0.6	10,049	0.20	0.02	10,060
December	2021	104.0	104.0	7.9	4.1	1.8	5.1	5.1	5.1	116,243	2.2	0.2	116,366	8.7	8.7	0.8	0.4	0.2	0.3	0.3	0.3	9,667	0.18	0.02	9,677
January	2022	106.7	106.7	8.3	4.3	1.9	5.1	5.1	5.1	119,380	2.3	0.2	119,507	12.7	12.7	1.0	0.6	0.3	0.6	0.6	0.6	14,602	0.28	0.03	14,617
February	2022	108.5	108.5	8.4	4.5	2.0	5.2	5.2	5.2	121,119	2.3	0.2	121,248	11.5	11.5	0.9	0.5	0.2	0.5	0.5	0.5	12,694	0.24	0.03	12,707
March	2022	110.8	110.8	8.5	4.5	2.0	5.4	5.4	5.4	123,139	2.4	0.2	123,271	10.6	10.6	0.9	0.4	0.2	0.5	0.5	0.5	12,016	0.23	0.02	12,029
April	2022	110.7	110.7	8.1	4.5	1.9	5.4	5.4	5.4	122,947	2.4	0.2	123,078	6.0	6.0	0.2	0.2	0.1	0.3	0.3	0.3	7,372	0.14	0.01	7,379
May	2022	111.3	111.3	7.9	4.5	1.9	5.5	5.5	5.5	123,621	2.4	0.2	123,753	7.1	7.1	0.4	0.3	0.1	0.3	0.3	0.3	8,400	0.16	0.02	8,408
June	2022	114.6	114.6	8.1	4.7	1.9	5.5	5.5	5.5	127,205	2.4	0.3	127,341	11.5	11.5	0.8	0.5	0.2	0.4	0.4	0.4	11,461	0.22	0.02	11,473
July	2022	118.3	118.3	8.4	4.9	2.0	5.7	5.7	5.7	130,965	2.5	0.3	131,104	11.3	11.3	0.7	0.4	0.2	0.5	0.5	0.5	11,838	0.22	0.02	11,851
August	2022	119.1	119.1	8.54	5.1	2.0	5.6	5.6	5.6	131,433	2.5	0.3	131,572	11.6	11.6	0.8	0.5	0.2	0.4	0.4	0.4	11,586	0.22	0.02	11,598
September	2022	120.1	120.1	8.3	5.0	2.0	5.6	5.6	5.6	131,993	2.5	0.3	132,133	8.7	8.7	0.4	0.2	0.1	0.5	0.5	0.5	9,351	0.18	0.02	9,360
October	2022	120.9	120.9	7.9	4.8	1.9	5.7	5.7	5.7	132,741	2.5	0.3	132,880	11.2	11.2	0.2	0.1	0.0	0.8	0.8	0.8	12,869	0.24	0.02	12,882
November	2022	117.6	117.6	7.6	4.5	1.8	5.7	5.7	5.7	129,618	2.5	0.3	129,754	5.1	5.1	0.1	0.1	0.0	0.5	0.5	0.5	6,095	0.12	0.01	6,102
December	2022	122.6	122.6	7.5	4.4	1.8	6.0	6.0	6.0	134,901	2.6	0.3	135,042	23.3	23.3	1.0	0.4	0.2	1.3	1.3	1.3	26,094	0.49	0.05	26,121

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Emissions Calculations

Month	Year	Natural Gas (MMBtu)									Total Natural Gas (MMBtu)	Carbon Dioxide (CO ₂)	Methane (CH ₄)	Nitrous Oxide (N ₂ O)	Carbon Dioxide (CO ₂)	Methane (CH ₄)	Nitrous Oxide (N ₂ O)	CO ₂ e
		Turbine 1	Turbine 2	Duct Burner 1	Duct Burner 2	Boiler 2	Boiler 4	Emerg. Gen.	Temporary Boiler	Mobile Boiler		kg/MMBtu	kg/MMBtu	kg/MMBtu	tons/month	tons/month	tons/month	tons/month
January	2020	0.00	2060.52	0.00	0.00	72701.89	67610.21	--	2.92	--	142375.54	53.06	0.0010	0.0001	8,327	0.16	0.02	8,336
February	2020	0.00	79092.65	0.00	30290.71	46916.09	1213.30	--	8.63	--	157521.38	53.06	0.0010	0.0001	9,213	0.17	0.02	9,223
March	2020	0.00	89470.56	0.00	46283.29	131.79	425.70	--	49.95	--	136361.29	53.06	0.0010	0.0001	7,976	0.15	0.02	7,984
April	2020	0.00	89913.00	0.00	41430.08	511.47	759.36	--	5.20	--	132619.11	53.06	0.0010	0.0001	7,757	0.15	0.01	7,765
May	2020	0.00	80599.86	0.00	31191.27	4691.09	4065.61	--	2.74	--	120550.57	53.06	0.0010	0.0001	7,051	0.13	0.01	7,058
June	2020	0.00	32183.88	0.00	2604.42	22755.69	15327.35	--	5.90	--	72877.24	53.06	0.0010	0.0001	4,262	0.08	0.01	4,267
July	2020	0.00	14214.46	0.00	0.00	31138.98	28497.95	--	0.20	--	73851.59	53.06	0.0010	0.0001	4,319	0.08	0.01	4,324
August	2020	0.00	56826.46	0.00	1893.17	88647.40	34732.86	--	0.46	--	182100.35	53.06	0.0010	0.0001	10,651	0.20	0.02	10,662
September	2020	0.00	81489.96	0.00	32748.69	19345.89	603.51	--	0.17	--	134188.22	53.06	0.0010	0.0001	7,848	0.15	0.01	7,857
October	2020	42612.00	93131.39	0.00	27194.70	7982.69	1.05	--	0.71	--	170922.54	53.06	0.0010	0.0001	9,997	0.19	0.02	10,007
November	2020	86071.23	89878.48	0.00	27801.35	6322.77	605.61	--	0.21	--	210679.65	53.06	0.0010	0.0001	12,322	0.23	0.02	12,335
December	2020	76553.08	91353.27	6976.49	31681.83	44251.01	1330.45	--	0.49	--	252146.62	53.06	0.0010	0.0001	14,748	0.28	0.03	14,763
January	2021	93330.12	87525.10	12593.24	27895.49	44118.17	684.05	--	--	0.29	266146.46	53.06	0.0010	0.0001	15,567	0.29	0.03	15,583
February	2021	67934.45	79126.12	13053.46	27717.68	29607.71	5547.72	--	--	0.12	222987.26	53.06	0.0010	0.0001	13,042	0.25	0.02	13,056
March	2021	90893.06	92085.44	8137.49	18952.61	9496.18	848.27	--	--	0.16	220413.21	53.06	0.0010	0.0001	12,892	0.24	0.02	12,905
April	2021	71312.87	36399.06	15281.33	3116.93	22731.63	6369.84	--	--	1.17	155212.83	53.06	0.0010	0.0001	9,078	0.17	0.02	9,088
May	2021	89909.86	71009.55	15145.36	993.65	324.24	1655.74	--	--	1.91	179040.31	53.06	0.0010	0.0001	10,472	0.20	0.02	10,483
June	2021	89271.83	81866.51	10103.88	407.92	1199.70	13927.87	--	--	0.19	196777.90	53.06	0.0010	0.0001	11,509	0.22	0.02	11,521
July	2021	30081.52	90181.81	2552.12	19642.94	21095.77	1447.59	--	--	0.38	165002.13	53.06	0.0010	0.0001	9,651	0.18	0.02	9,661
August	2021	93235.98	10815.12	20385.57	0.00	21505.78	233.25	--	--	0.13	146175.83	53.06	0.0010	0.0001	8,550	0.16	0.02	8,558
September	2021	90171.35	0.00	23774.44	0.00	22675.15	391.19	--	--	0.19	137012.32	53.06	0.0010	0.0001	8,014	0.15	0.02	8,022
October	2021	16128.55	0.00	1589.84	0.00	71028.37	26913.34	--	--	0.20	115660.30	53.06	0.0010	0.0001	6,765	0.13	0.01	6,772
November	2021	57569.09	9047.47	7196.14	313.79	60489.38	30498.86	--	--	2.16	165116.89	53.06	0.0010	0.0001	9,657	0.18	0.02	9,667
December	2021	25186.48	88246.80	7813.25	19067.67	4858.44	19950.45	--	--	1.04	165124.13	53.06	0.0010	0.0001	9,658	0.18	0.02	9,668
January	2022	90830.30	78906.47	19287.32	26159.21	13522.04	19947.31	--	--	2.39	248655.04	53.06	0.0010	0.0001	14,543	0.27	0.03	14,558
February	2022	72222.85	82222.13	14768.81	17707.93	693.46	26055.66	--	--	1.33	213672.17	53.06	0.0010	0.0001	12,497	0.24	0.02	12,510
March	2022	45488.37	77442.14	9037.01	23397.90	14631.79	35450.38	--	--	2.28	205449.87	53.06	0.0010	0.0001	12,016	0.23	0.02	12,029
April	2022	52862.31	0.00	20626.13	0.00	21590.50	30511.41	--	--	448.71	126039.06	53.06	0.0010	0.0001	7,372	0.14	0.01	7,379
May	2022	76385.73	22833.09	18398.26	11306.72	11211.54	3236.17	--	--	240.57	143612.08	53.06	0.0010	0.0001	8,400	0.16	0.02	8,408
June	2022	87525.10	90192.27	12844.27	1004.11	2528.69	1716.09	--	--	138.07	195948.60	53.06	0.0010	0.0001	11,461	0.22	0.02	11,473
July	2022	86897.53	51345.69	18105.39	0.00	21367.71	24054.85	--	--	293.91	202065.08	53.06	0.0010	0.0001	11,818	0.22	0.02	11,831
August	2022	86426.85	91499.71	12342.21	1265.60	3129.48	3032.21	--	--	116.10	197812.16	53.06	0.0010	0.0001	11,570	0.22	0.02	11,582
September	2022	29401.65	33104.32	4633.56	10.46	52251.48	40245.02	--	--	226.97	159873.46	53.06	0.0010	0.0001	9,351	0.18	0.02	9,360
October	2022	0.00	0.00	0.00	0.00	73768.76	144089.03	--	--	2167.21	220025.00	53.06	0.0010	0.0001	12,869	0.24	0.02	12,882
November	2022	0.00	0.00	0.00	0.00	80269.34	15230.08	--	--	3449.54	98948.96	53.06	0.0010	0.0001	5,787	0.11	0.01	5,793
December	2022	26023.24	64357.30	0.00	13231.27	47932.75	289254.33	--	--	2976.77	443775.66	53.06	0.0010	0.0001	25,956	0.49	0.05	25,983

Month	Year	Fuel Oil (MMBtu)									Total Fuel Oil (MMBtu)	Carbon Dioxide (CO ₂)	Methane (CH ₄)	Nitrous Oxide (N ₂ O)	Carbon Dioxide (CO ₂)	Methane (CH ₄)	Nitrous Oxide (N ₂ O)	CO ₂ e
		Turbine 1	Turbine 2	Duct Burner 1	Duct Burner 2	Boiler 2	Boiler 4	Emerg. Gen.	Temporary Boiler	Mobile Boiler		kg/MMBtu	kg/MMBtu	kg/MMBtu	tons/month	tons/month	tons/month	tons/month
January	2020	0.00	0.00	--	--	0.00	0.00	0.00	--	--	0.00	73.96	0.003	0.0006	0	0	0	0
February	2020	0.00	0.00	--	--	0.00	0.00	27.17	--	--	27.17	73.96	0.003	0.0006	2	0.000	0.000	2
March	2020	0.00	0.00	--	--	0.00	0.00	0.00	--	--	0.00	73.96	0.003	0.0006	0	0	0	0
April	2020	0.00	0.00	--	--	0.00	0.00	0.00	0.00	--	0.00	73.96	0.003	0.0006	0	0	0	0
May	2020	0.00	0.00	--	--	0.00	0.00	0.00	0.00	--	0.00	73.96	0.003	0.0006	0	0	0	0
June	2020	0.00	0.00	--	--	0.00	0.00	374.18	0.00	--	374.18	73.96	0.003	0.0006	31	0.001	0.000	31
July	2020	0.00	0.00	--	--	0.00	0.00	0.00	0.00	--	0.00	73.96	0.003	0.0006	0	0	0	0
August	2020	0.00	0.00	--	--	0.00	0.00	0.00	0.00	--	0.00	73.96	0.003	0.0006	0	0	0	0
September	2020	0.00	0.00	--	--	556.20	4112.94	0.00	0.00	--	4669.14	73.96	0.003	0.0006	381	0.015	0.003	382
October	2020	0.00	0.00	--	--	5039.75	0.00	0.00	11849.00	--	16888.75	73.96	0.003	0.0006	1,377	0.056	0.011	1,382
November	2020	0.00	0.00	--	--	0.00	223.39	0.00	0.00	--	223.39	73.96	0.003	0.0006	18	0.001	0.000	18
December	2020	0.00	0.00	--	--	2826.91	1975.98	0.00	4765.00	--	9567.89	73.96	0.003	0.0006	780	0.032	0.006	783
January	2021	0.00	0.00	--	--	0.00	69.56	3.88	--	0.00	73.44	73.96	0.003	0.0006	6	0.000	0.000	6
February	2021	0.00	0.00	--	--	0.00	0.00	0.00	--	0.00	0.00	73.96	0.003	0.0006	0	0	0	0
March	2021	0.00	0.00	--	--	0.00	0.00	0.00	--	0.00	0.00	73.96	0.003	0.0006	0	0	0	0
April	2021	0.00	0.00	--	--	0.00	0.00	0.00	--	0.00	0.00	73.96	0.003	0.0006	0	0	0	0
May	2021	0.00	0.00	--	--	2.47	0.00	77.63	--	0.00	80.10	73.96	0.003	0.0006	7	0.000	0.000	7
June	2021	0.00	0.00	--	--	0.00	0.00	0.00	--	0.00	0.00	73.96	0.003	0.0006	0	0	0	0
July	2021	0.00	0.00	--	--	0.00	0.00	0.00	--	0.00	0.00	73.96	0.003	0.0006	0	0	0	0
August	2021	0.00	0.00	--	--	0.00	0.00	5.43	--	0.00	5.43	73.96	0.003	0.0006	0	0.000	0.000	0
September	2021	0.00	0.00	--	--	0.00	0.00	0.00	--	0.00	0.00	73.96	0.003	0.0006	0	0	0	0
October	2021	0.00	0.00	--	--	1.65	0.00	139.73	--	1791.00	1932.38	73.96	0.003	0.0006	158	0.006	0.001	158
November	2021	0.00	0.00	--	--	592.49	480.32	0.00	--	3725.00	4797.81	73.96	0.003	0.0006	391	0.016	0.003	392
December	2021	0.00	0.00	--	--	111.07	1.65	0.00	--	0.00	112.72	73.96	0.003	0.0006	9	0.000	0.000	9
January	2022	0.00	0.00	--	--	586.17	132.93	0.00	--	0.00	719.10	73.96	0.003	0.0006	59	0.002	0.000	59
February	2022	0.00	0.00	--	--	1451.12	942.35	0.00	--	14.00	2407.47	73.96	0.003	0.0006	196	0.008	0.002	197
March	2022	0.00	0.00	--	--	0.00	0.00	0.00	--	0.00	0.00	73.96	0.003	0.0006	0	0	0	0
April	2022	0.00	0.00	--	--	0.00	0.00	0.00	--	0.00	0.00	73.96	0.003	0.0006	0	0	0	0
May	2022	0.00	0.00	--	--	0.00	0.00	0.004	--	0.00	0.00	73.96	0.003	0.0006	0	0.000	0.000	0
June	2022	0.00	0.00	--	--	0.00	0.00	0.004	--	0.00	0.00	73.96	0.003	0.0006	0	0.000	0.000	0
July	2022	0.00	0.00	--	--	6.19	72.03	164.96	--	0.00	243.18	73.96	0.003	0.0006	20	0.001	0.000	20
August	2022	0.00	0.00	--	--	0.00	0.00	0.004	--	202.71	202.71	73.96	0.003	0.0006	17	0.001	0.000	17
September	2022	0.00	0.00	--	--	0.00	0.00	0.194	--	0.00	0.19	73.96	0.003	0.0006	0	0.000	0.000	0
October	2022	0.00	0.00	--	--	0.00	0.00	0.00	--	0.00	0.00	73.96	0.003	0.0006	0	0	0	0
November	2022	0.00	0.00	--	--	238.10	740.13	6.599	--	2784.00	3768.83	73.96	0.003	0.0006	307	0.012	0.002	308
December	2022	0.00	0.00	--	--	508.91	392.20	6.599	--	789.00	1696.71	73.96	0.003	0.0006	138	0.006	0.001	139

University of Maryland, College Park
NextGen Project Air Permitting
Emissions Calculations

Month	Year	NOx								
		Turbine 1	Turbine 2	Duct Burner 1	Duct Burner 2	Boiler 2	Boiler 4	Emerg. Gen.	Temporary Boiler	Mobile Boiler
January	2020	0	0.1329	0	0	3.695	3.4639	0	--	--
February	2020	0	5.1015	0	0.1969	2.3845	0.0622	0.0435	--	--
March	2020	0	5.7709	0	0.3008	0.0067	0.0218	0	--	--
April	2020	0	5.7994	0	0.2693	0.026	0.0389	0	0.0978	--
May	2020	0	5.1987	0	0.2027	0.2384	0.2083	0	0.0516	--
June	2020	0	2.0759	0	0.0169	1.1565	0.7853	0.5987	0.1111	--
July	2020	0	0.9168	0	0	1.5826	1.46	0	0.0037	--
August	2020	0	3.6653	0	0.0123	4.5054	1.7795	0	0.0086	--
September	2020	0	5.2561	0	0.2129	1.0172	0.2997	0	0.0033	--
October	2020	2.578	6.007	0	0.1768	0.7131	0.0001	0	0.0948	--
November	2020	5.2073	5.7972	0	0.1807	0.3213	0.0456	0	0.0039	--
December	2020	4.6315	5.8923	0.0453	0.2059	2.4214	0.1973	0	0.042	--
January	2021	5.6465	5.6454	0.0819	0.1813	2.2423	0.0396	0.0062	--	0.0055
February	2021	4.11	5.1036	0.0848	0.1802	1.5048	0.2842	0	--	0.0022
March	2021	5.499	5.9395	0.0529	0.1232	0.4826	0.0435	0	--	0.003
April	2021	4.3144	2.3477	0.0993	0.0203	1.1553	0.3263	0	--	0.022
May	2021	5.4395	4.5801	0.0984	0.0065	0.0166	0.0848	0.1242	--	0.036
June	2021	5.4009	5.2804	0.0657	0.0027	0.061	0.7136	0	--	0.0036
July	2021	1.8199	5.8167	0.0166	0.1277	1.0722	0.0742	0	--	0.0071
August	2021	5.6408	0.6976	0.1325	0	1.093	0.0119	0.0087	--	0.0025
September	2021	5.4554	0	0.1545	0	1.1524	0.02	0	--	0.0036
October	2021	0.9758	0	0.0103	0	3.61	1.3789	0.2236	--	0.0284
November	2021	3.4829	0.5836	0.0468	0.002	3.1104	1.5939	0	--	0.0918
December	2021	1.5238	5.6919	0.0508	0.1239	0.2537	1.0222	0	--	0.0195
January	2022	5.5176	5.1101	0.1259	0.1707	0.7258	1.0348	0	--	0.0453
February	2022	4.3872	5.3249	0.0964	0.1156	0.1239	1.4019	0	--	0.0254
March	2022	2.7632	5.0153	0.059	0.1527	0.7467	1.8236	0	--	0.043
April	2022	3.2112	0	0.1346	0	1.1018	1.5695	0	--	0.0081
May	2022	4.6401	1.4787	0.1201	0.0738	0.5721	0.1665	0	--	0.0043
June	2022	5.3168	5.841	0.0838	0.0066	0.129	0.0883	0	--	0.0025
July	2022	5.2787	3.3253	0.1182	0	1.0908	1.2421	0.2639	--	0.0053
August	2022	5.2501	5.9257	0.0806	0.0083	0.1597	0.156	0	--	0.0049
September	2022	1.786	2.1439	0.0302	0.0001	2.6664	2.0703	0.0003	--	0.0041
October	2022	0	0	0	0	3.7645	7.4121	0	--	0.0392
November	2022	0	0	0	0	4.1107	0.8318	0.0106	--	0.1006
December	2022	1.5808	4.1679	0	0.0864	2.4771	14.9053	0.0106	--	0.0646

University of Maryland, College Park
NextGen Project Air Permitting
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Month	Year	NO2								
		Turbine 1	Turbine 2	Duct Burner 1	Duct Burner 2	Boiler 2	Boiler 4	Emerg. Gen.	Temporary Boiler	Mobile Boiler
January	2020	0	0.1329	0	0	3.695	3.4639	0	--	--
February	2020	0	5.1015	0	0.1969	2.3845	0.0622	0.0435	--	--
March	2020	0	5.7709	0	0.3008	0.0067	0.0218	0	--	--
April	2020	0	5.7994	0	0.2693	0.026	0.0389	0	0.0978	--
May	2020	0	5.1987	0	0.2027	0.2384	0.2083	0	0.0516	--
June	2020	0	2.0759	0	0.0169	1.1565	0.7853	0.5987	0.1111	--
July	2020	0	0.9168	0	0	1.5826	1.46	0	0.0037	--
August	2020	0	3.6653	0	0.0123	4.5054	1.7795	0	0.0086	--
September	2020	0	5.2561	0	0.2129	1.0172	0.2997	0	0.0033	--
October	2020	2.578	6.007	0	0.1768	0.7131	0.0001	0	0.0948	--
November	2020	5.2073	5.7972	0	0.1807	0.3213	0.0456	0	0.0039	--
December	2020	4.6315	5.8923	0.0453	0.2059	2.4214	0.1973	0	0.042	--
January	2021	5.6465	5.6454	0.0819	0.1813	2.2423	0.0396	0.0062	--	0.0055
February	2021	4.11	5.1036	0.0848	0.1802	1.5048	0.2842	0	--	0.0022
March	2021	5.499	5.9395	0.0529	0.1232	0.4826	0.0435	0	--	0.003
April	2021	4.3144	2.3477	0.0993	0.0203	1.1553	0.3263	0	--	0.022
May	2021	5.4395	4.5801	0.0984	0.0065	0.0166	0.0848	0.1242	--	0.036
June	2021	5.4009	5.2804	0.0657	0.0027	0.061	0.7136	0	--	0.0036
July	2021	1.8199	5.8167	0.0166	0.1277	1.0722	0.0742	0	--	0.0071
August	2021	5.6408	0.6976	0.1325	0	1.093	0.0119	0.0087	--	0.0025
September	2021	5.4554	0	0.1545	0	1.1524	0.02	0	--	0.0036
October	2021	0.9758	0	0.0103	0	3.61	1.3789	0.2236	--	0.0284
November	2021	3.4829	0.5836	0.0468	0.002	3.1104	1.5939	0	--	0.0918
December	2021	1.5238	5.6919	0.0508	0.1239	0.2537	1.0222	0	--	0.0195
January	2022	5.5176	5.1101	0.1259	0.1707	0.7258	1.0348	0	--	0.0453
February	2022	4.3872	5.3249	0.0964	0.1156	0.1239	1.4019	0	--	0.0254
March	2022	2.7632	5.0153	0.059	0.1527	0.7467	1.8236	0	--	0.043
April	2022	3.2112	0	0.1346	0	1.1018	1.5695	0	--	0.0081
May	2022	4.6401	1.4787	0.1201	0.0738	0.5721	0.1665	0	--	0.0043
June	2022	5.3168	5.841	0.0838	0.0066	0.129	0.0883	0	--	0.0025
July	2022	5.2787	3.3253	0.1182	0	1.0908	1.2421	0.2639	--	0.0053
August	2022	5.2501	5.9257	0.0806	0.0083	0.1597	0.156	0	--	0.0049
September	2022	1.786	2.1439	0.0302	0.0001	2.6664	2.0703	0.0003	--	0.0041
October	2022	0	0	0	0	3.7645	7.4121	0	--	0.0392
November	2022	0	0	0	0	4.1107	0.8318	0.0106	--	0.1006
December	2022	1.5808	4.1679	0	0.0864	2.4771	14.9053	0.0106	--	0.0646

University of Maryland, College Park
NextGen Project Air Permitting
Emissions Calculations

Month	Year	CO								
		Turbine 1	Turbine 2	Duct Burner 1	Duct Burner 2	Boiler 2	Boiler 4	Emerg. Gen.	Temporary Boiler	Mobile Boiler
January	2020	0	0.0144	0	0	0.0201	0.0731	0	--	--
February	2020	0	0.5536	0	0.1515	0.013	0.0013	0.0115	--	--
March	2020	0	0.6263	0	0.2314	0	0.0005	0	--	--
April	2020	0	0.6294	0	0.2072	0.0001	0.0008	0	0.1019	--
May	2020	0	0.5642	0	0.156	0.0013	0.0044	0	0.0538	--
June	2020	0	0.2253	0	0.013	0.0063	0.0166	0.159	0.1158	--
July	2020	0	0.0995	0	0	0.0086	0.0308	0	0.0038	--
August	2020	0	0.3978	0	0.0095	0.0245	0.0376	0	0.009	--
September	2020	0	0.5704	0	0.1637	0.0115	0.0632	0	0.0034	--
October	2020	0.0639	0.6519	0	0.136	0.0576	0	0	0.0444	--
November	2020	0.1291	0.6291	0	0.139	0.0017	0.0041	0	0.0041	--
December	2020	0.1148	0.6395	0.0349	0.1584	0.0433	0.0315	0	0.0219	--
January	2021	0.14	0.6127	0.063	0.1395	0.0122	0.0018	0.0016	--	0.0057
February	2021	0.1019	0.5539	0.0653	0.1386	0.0082	0.006	0	--	0.0023
March	2021	0.1363	0.6446	0.0407	0.0948	0.0026	0.0009	0	--	0.0031
April	2021	0.107	0.2548	0.0764	0.0156	0.0063	0.0069	0	--	0.023
May	2021	0.1349	0.4971	0.0757	0.005	0.0001	0.0018	0.033	--	0.0375
June	2021	0.1339	0.5731	0.0505	0.002	0.0003	0.0151	0	--	0.0038
July	2021	0.0451	0.6313	0.0128	0.0982	0.0058	0.0016	0	--	0.0074
August	2021	0.1399	0.0757	0.1019	0	0.0059	0.0003	0.0023	--	0.0026
September	2021	0.1353	0	0.1189	0	0.0063	0.0004	0	--	0.0038
October	2021	0.0242	0	0.0079	0	0.0196	0.0291	0.0594	--	0.0086
November	2021	0.0864	0.0633	0.036	0.0016	0.0232	0.0403	0	--	0.0519
December	2021	0.0378	0.6177	0.0391	0.0953	0.0026	0.0216	0	--	0.0203
January	2022	0.1368	0.5546	0.0968	0.1313	0.0102	0.0237	0	--	0.0471
February	2022	0.1088	0.5779	0.0741	0.0889	0.0161	0.0426	0	--	0.0262
March	2022	0.0685	0.5443	0.0454	0.1175	0.0041	0.0385	0	--	0.0448
April	2022	0.0796	0	0.1035	0	0.006	0.0331	0	--	0.0084
May	2022	0.115	0.1605	0.0924	0.0568	0.0031	0.0035	0	--	0.0045
June	2022	0.1318	0.6339	0.0645	0.005	0.0007	0.0019	0	--	0.0026
July	2022	0.1309	0.3609	0.0909	0	0.006	0.0272	0.0701	--	0.0055
August	2022	0.1302	0.6431	0.062	0.0064	0.0009	0.0033	0	--	0.0027
September	2022	0.0443	0.2327	0.0233	0.0001	0.0145	0.0437	0.0001	--	0.0043
October	2022	0	0	0	0	0.0205	0.1565	0	--	0.0408
November	2022	0	0	0	0	0.0249	0.0278	0.0028	--	0.0721
December	2022	0.0392	0.4523	0	0.0664	0.0189	0.3201	0.0028	--	0.0581

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Month	Year	SO2								
		Turbine 1	Turbine 2	Duct Burner 1	Duct Burner 2	Boiler 2	Boiler 4	Emerg. Gen.	Temporary Boiler	Mobile Boiler
January	2020	0	0.0062	0	0	0.0214	0.0199	0	--	--
February	2020	0	0.2373	0	0.0089	0.0138	0.0004	0	--	--
March	2020	0	0.2684	0	0.0136	0	0.0001	0	--	--
April	2020	0	0.2697	0	0.0122	0.0002	0.0002	0	0.0016	--
May	2020	0	0.2418	0	0.0092	0.0014	0.0012	0	0.0009	--
June	2020	0	0.0966	0	0.0008	0.0067	0.0045	0.0003	0.0019	--
July	2020	0	0.0426	0	0	0.0092	0.0084	0	0.0001	--
August	2020	0	0.1705	0	0.0006	0.0261	0.0102	0	0.0001	--
September	2020	0	0.2445	0	0.0096	0.018	0.0886	0	0.0001	--
October	2020	0.1278	0.2794	0	0.008	0.1136	0	0	0.0015	--
November	2020	0.2582	0.2696	0	0.0082	0.0019	0.005	0	0.0001	--
December	2020	0.2297	0.2741	0.0021	0.0093	0.0754	0.0429	0	0.0007	--
January	2021	0.28	0.2626	0.0037	0.0082	0.013	0.0017	0	--	0.0001
February	2021	0.2038	0.2374	0.0038	0.0082	0.0087	0.0016	0	--	0
March	2021	0.2727	0.2763	0.0024	0.0056	0.0028	0.0002	0	--	0
April	2021	0.2139	0.1092	0.0045	0.0009	0.0067	0.0019	0	--	0.0004
May	2021	0.2697	0.213	0.0045	0.0003	0.0001	0.0005	0.0001	--	0.0006
June	2021	0.2678	0.2456	0.003	0.0001	0.0004	0.0041	0	--	0.0001
July	2021	0.0902	0.2705	0.0008	0.0058	0.0062	0.0004	0	--	0.0001
August	2021	0.2797	0.0324	0.006	0	0.0063	0.0001	0	--	0
September	2021	0.2705	0	0.007	0	0.0067	0.0001	0	--	0.0001
October	2021	0.0484	0	0.0005	0	0.0209	0.0079	0.0001	--	0.0003
November	2021	0.1727	0.0271	0.0021	0.0001	0.0309	0.0193	0	--	0.0011
December	2021	0.0756	0.2647	0.0023	0.0056	0.0039	0.0059	0	--	0.0003
January	2022	0.2736	0.2377	0.0057	0.0077	0.0169	0.0087	0	--	0.0008
February	2022	0.2175	0.2477	0.0044	0.0052	0.0322	0.028	0	--	0.0004
March	2022	0.137	0.2333	0.0027	0.0069	0.0043	0.0105	0	--	0.0007
April	2022	0.1592	0	0.0061	0	0.0064	0.009	0	--	0.0001
May	2022	0.2301	0.0688	0.0054	0.0033	0.0033	0.001	0	--	0.0001
June	2022	0.2636	0.2717	0.0038	0.0003	0.0007	0.0005	0	--	0
July	2022	0.2618	0.1547	0.0053	0	0.0064	0.0087	0.0001	--	0.0001
August	2022	0.2603	0.2756	0.0036	0.0004	0.0009	0.0009	0	--	0.0001
September	2022	0.0886	0.0997	0.0014	0	0.0154	0.0119	0	--	0.0001
October	2022	0	0	0	0	0.0218	0.0426	0	--	0.0007
November	2022	0	0	0	0	0.029	0.0204	0	--	0.0013
December	2022	0.0784	0.1939	0	0.0039	0.0254	0.0939	0	--	0.001

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Month	Year	VOC								
		Turbine 1	Turbine 2	Duct Burner 1	Duct Burner 2	Boiler 2	Boiler 4	Emerg. Gen.	Temporary Boiler	Mobile Boiler
January	2020	0	0.0021	0	0	0.0086	0.0144	0	--	--
February	2020	0	0.0791	0	0.0817	0.0056	0.0003	0.0012	--	--
March	2020	0	0.0895	0	0.1248	0	0.0001	0	--	--
April	2020	0	0.0899	0	0.1117	0.0001	0.0002	0	0.0109	--
May	2020	0	0.0806	0	0.0841	0.0006	0.0009	0	0.0057	--
June	2020	0	0.0322	0	0.007	0.0027	0.0033	0.0168	0.0123	--
July	2020	0	0.0142	0	0	0.0037	0.0061	0	0.0004	--
August	2020	0	0.0568	0	0.0051	0.0105	0.0074	0	0.001	--
September	2020	0	0.0815	0	0.0883	0.0027	0.0029	0	0.0004	--
October	2020	0.0213	0.0931	0	0.0733	0.0048	0	0	0.0047	--
November	2020	0.043	0.0899	0	0.075	0.0007	0.0003	0	0.0004	--
December	2020	0.0383	0.0914	0.0188	0.0854	0.0074	0.0016	0	0.0023	--
January	2021	0.0467	0.0875	0.034	0.0752	0.0052	0.0002	0.0002	--	0.0006
February	2021	0.034	0.0791	0.0352	0.0747	0.0035	0.0012	0	--	0.0002
March	2021	0.0454	0.0921	0.0219	0.0511	0.0011	0.0002	0	--	0.0003
April	2021	0.0357	0.0364	0.0412	0.0084	0.0027	0.0014	0	--	0.0024
May	2021	0.045	0.071	0.0408	0.0027	0	0.0004	0.0035	--	0.004
June	2021	0.0446	0.0819	0.0272	0.0011	0.0001	0.003	0	--	0.0004
July	2021	0.015	0.0902	0.0069	0.053	0.0025	0.0003	0	--	0.0008
August	2021	0.0466	0.0108	0.055	0	0.0026	0	0.0002	--	0.0003
September	2021	0.0451	0	0.0641	0	0.0027	0.0001	0	--	0.0004
October	2021	0.0081	0	0.0043	0	0.0084	0.0057	0.0063	--	0.0009
November	2021	0.0288	0.009	0.0194	0.0008	0.0076	0.0068	0	--	0.0055
December	2021	0.0126	0.0882	0.0211	0.0514	0.0007	0.0043	0	--	0.0022
January	2022	0.0456	0.0792	0.0522	0.0708	0.0021	0.0044	0	--	0.005
February	2022	0.0363	0.0826	0.04	0.0479	0.0012	0.0062	0	--	0.0028
March	2022	0.0228	0.0778	0.0245	0.0633	0.0017	0.0076	0	--	0.0048
April	2022	0.0265	0	0.0558	0	0.0026	0.0065	0	--	0.0009
May	2022	0.0383	0.0229	0.0498	0.0306	0.0013	0.0007	0	--	0.0005
June	2022	0.0439	0.0906	0.0348	0.0027	0.0003	0.0004	0	--	0.0003
July	2022	0.0436	0.0516	0.049	0	0.0025	0.0052	0.0074	--	0.0006
August	2022	0.0434	0.0919	0.0334	0.0034	0.0004	0.0007	0	--	0.0003
September	2022	0.0148	0.0332	0.0125	0	0.0062	0.0086	0	--	0.0005
October	2022	0	0	0	0	0.0088	0.0309	0	--	0.0044
November	2022	0	0	0	0	0.0097	0.0038	0.0003	--	0.0077
December	2022	0.0131	0.0646	0	0.0358	0.0061	0.0623	0.0003	--	0.0062

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Month	Year	PM								
		Turbine 1	Turbine 2	Duct Burner 1	Duct Burner 2	Boiler 2	Boiler 4	Emerg. Gen.	Temporary Boiler	Mobile Boiler
January	2020	0	0.0037	0	0	0.3264	0.2037	0	--	--
February	2020	0	0.1424	0	0.0297	0.2106	0.0037	0.0009	--	--
March	2020	0	0.161	0	0.0454	0.0006	0.0013	0	--	--
April	2020	0	0.1618	0	0.0407	0.0023	0.0023	0	0.0288	--
May	2020	0	0.1451	0	0.0306	0.0211	0.0122	0	0.0152	--
June	2020	0	0.0579	0	0.0026	0.1022	0.0462	0.013	0.0327	--
July	2020	0	0.0256	0	0	0.1398	0.0859	0	0.0011	--
August	2020	0	0.1023	0	0.0019	0.398	0.1046	0	0.0025	--
September	2020	0	0.1467	0	0.0321	0.1086	0.1438	0	0.001	--
October	2020	0.1044	0.1676	0	0.0267	0.2327	0	0	0.0834	--
November	2020	0.2109	0.1618	0	0.0273	0.0284	0.0095	0	0.0011	--
December	2020	0.1876	0.1644	0.0068	0.0311	0.3091	0.0722	0	0.0347	--
January	2021	0.2287	0.1575	0.0124	0.0274	0.1981	0.0045	0.0001	--	0.0016
February	2021	0.1664	0.1424	0.0128	0.0272	0.1329	0.0167	0	--	0.0007
March	2021	0.2227	0.1658	0.008	0.0186	0.0426	0.0026	0	--	0.0009
April	2021	0.1747	0.0655	0.015	0.0031	0.1021	0.0192	0	--	0.0065
May	2021	0.2203	0.1278	0.0149	0.001	0.0016	0.005	0.0027	--	0.0106
June	2021	0.2187	0.1474	0.0099	0.0004	0.0054	0.042	0	--	0.0011
July	2021	0.0737	0.1623	0.0025	0.0193	0.0947	0.0044	0	--	0.0021
August	2021	0.2284	0.0195	0.02	0	0.0966	0.0007	0.0002	--	0.0007
September	2021	0.2209	0	0.0233	0	0.1018	0.0012	0	--	0.0011
October	2021	0.0395	0	0.0016	0	0.319	0.0811	0.0049	--	0.0131
November	2021	0.141	0.0163	0.0071	0.0003	0.2947	0.1085	0	--	0.0369
December	2021	0.0617	0.1588	0.0077	0.0187	0.0262	0.0602	0	--	0.0057
January	2022	0.2234	0.1426	0.019	0.0258	0.0838	0.0649	0	--	0.0133
February	2022	0.1777	0.1486	0.0146	0.0174	0.0598	0.1113	0	--	0.0075
March	2022	0.1119	0.14	0.0089	0.0231	0.066	0.1072	0	--	0.0126
April	2022	0.13	0	0.0203	0	0.0973	0.0923	0	--	0.0024
May	2022	0.1879	0.0413	0.0181	0.0111	0.0505	0.0098	0	--	0.0013
June	2022	0.2153	0.163	0.0127	0.001	0.0114	0.0052	0	--	0.0007
July	2022	0.2138	0.0928	0.0178	0	0.0966	0.0753	0.0057	--	0.0016
August	2022	0.2126	0.1654	0.0122	0.0012	0.0141	0.0092	0	--	0.002
September	2022	0.0723	0.0598	0.0046	0	0.2355	0.1217	0	--	0.0012
October	2022	0	0	0	0	0.3325	0.4359	0	--	0.0115
November	2022	0	0	0	0	0.3711	0.0716	0.0002	--	0.037
December	2022	0.064	0.1163	0	0.013	0.236	0.8886	0.0002	--	0.0211

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Month	Year	PM10								
		Turbine 1	Turbine 2	Duct Burner 1	Duct Burner 2	Boiler 2	Boiler 4	Emerg. Gen.	Temporary Boiler	Mobile Boiler
January	2020	0	0.0037	0	0	0.3264	0.2037	0	--	--
February	2020	0	0.1424	0	0.0297	0.2106	0.0037	0.0008	--	--
March	2020	0	0.161	0	0.0454	0.0006	0.0013	0	--	--
April	2020	0	0.1618	0	0.0407	0.0023	0.0023	0	0.0288	--
May	2020	0	0.1451	0	0.0306	0.0211	0.0122	0	0.0152	--
June	2020	0	0.0579	0	0.0026	0.1022	0.0462	0.0107	0.0327	--
July	2020	0	0.0256	0	0	0.1398	0.0859	0	0.0011	--
August	2020	0	0.1023	0	0.0019	0.398	0.1046	0	0.0025	--
September	2020	0	0.1467	0	0.0321	0.1086	0.1438	0	0.001	--
October	2020	0.1044	0.1676	0	0.0267	0.2327	0	0	0.0834	--
November	2020	0.2109	0.1618	0	0.0273	0.0284	0.0095	0	0.0011	--
December	2020	0.1876	0.1644	0.0068	0.0311	0.3091	0.0722	0	0.0347	--
January	2021	0.2287	0.1575	0.0124	0.0274	0.1981	0.0045	0.0001	--	0.0016
February	2021	0.1664	0.1424	0.0128	0.0272	0.1329	0.0167	0	--	0.0007
March	2021	0.2227	0.1658	0.008	0.0186	0.0426	0.0026	0	--	0.0009
April	2021	0.1747	0.0655	0.015	0.0031	0.1021	0.0192	0	--	0.0065
May	2021	0.2203	0.1278	0.0149	0.001	0.0016	0.005	0.0022	--	0.0106
June	2021	0.2187	0.1474	0.0099	0.0004	0.0054	0.042	0	--	0.0011
July	2021	0.0737	0.1623	0.0025	0.0193	0.0947	0.0044	0	--	0.0021
August	2021	0.2284	0.0195	0.02	0	0.0966	0.0007	0.0002	--	0.0007
September	2021	0.2209	0	0.0233	0	0.1018	0.0012	0	--	0.0011
October	2021	0.0395	0	0.0016	0	0.319	0.0811	0.004	--	0.0131
November	2021	0.141	0.0163	0.0071	0.0003	0.2947	0.1085	0	--	0.0369
December	2021	0.0617	0.1588	0.0077	0.0187	0.0262	0.0602	0	--	0.0057
January	2022	0.2234	0.1426	0.019	0.0258	0.0838	0.0649	0	--	0.0133
February	2022	0.1777	0.1486	0.0146	0.0174	0.0598	0.1113	0	--	0.0075
March	2022	0.1119	0.14	0.0089	0.0231	0.066	0.1072	0	--	0.0126
April	2022	0.13	0	0.0203	0	0.0973	0.0923	0	--	0.0024
May	2022	0.1879	0.0413	0.0181	0.0111	0.0505	0.0098	0	--	0.0013
June	2022	0.2153	0.163	0.0127	0.001	0.0114	0.0052	0	--	0.0007
July	2022	0.2138	0.0928	0.0178	0	0.0966	0.0753	0.0047	--	0.0016
August	2022	0.2126	0.1654	0.0122	0.0012	0.0141	0.0092	0	--	0.002
September	2022	0.0723	0.0598	0.0046	0	0.2355	0.1217	0	--	0.0012
October	2022	0	0	0	0	0.3325	0.4359	0	--	0.0115
November	2022	0	0	0	0	0.3711	0.0716	0.0002	--	0.037
December	2022	0.064	0.1163	0	0.013	0.236	0.8886	0.0002	--	0.0211

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Month	Year	PM2.5								
		Turbine 1	Turbine 2	Duct Burner 1	Duct Burner 2	Boiler 2	Boiler 4	Emerg. Gen.	Temporary Boiler	Mobile Boiler
January	2020	0	0.0037	0	0	0.3264	0.2037	0	--	--
February	2020	0	0.1424	0	0.0297	0.2106	0.0037	0.0008	--	--
March	2020	0	0.161	0	0.0454	0.0006	0.0013	0	--	--
April	2020	0	0.1618	0	0.0407	0.0023	0.0023	0	0.0288	--
May	2020	0	0.1451	0	0.0306	0.0211	0.0122	0	0.0152	--
June	2020	0	0.0579	0	0.0026	0.1022	0.0462	0.0107	0.0327	--
July	2020	0	0.0256	0	0	0.1398	0.0859	0	0.0011	--
August	2020	0	0.1023	0	0.0019	0.398	0.1046	0	0.0025	--
September	2020	0	0.1467	0	0.0321	0.1086	0.1438	0	0.001	--
October	2020	0.1044	0.1676	0	0.0267	0.2327	0	0	0.0834	--
November	2020	0.2109	0.1618	0	0.0273	0.0284	0.0095	0	0.0011	--
December	2020	0.1876	0.1644	0.0068	0.0311	0.3091	0.0722	0	0.0347	--
January	2021	0.2287	0.1575	0.0124	0.0274	0.1981	0.0045	0.0001	--	0.0016
February	2021	0.1664	0.1424	0.0128	0.0272	0.1329	0.0167	0	--	0.0007
March	2021	0.2227	0.1658	0.008	0.0186	0.0426	0.0026	0	--	0.0009
April	2021	0.1747	0.0655	0.015	0.0031	0.1021	0.0192	0	--	0.0065
May	2021	0.2203	0.1278	0.0149	0.001	0.0016	0.005	0.0022	--	0.0106
June	2021	0.2187	0.1474	0.0099	0.0004	0.0054	0.042	0	--	0.0011
July	2021	0.0737	0.1623	0.0025	0.0193	0.0947	0.0044	0	--	0.0021
August	2021	0.2284	0.0195	0.02	0	0.0966	0.0007	0.0002	--	0.0007
September	2021	0.2209	0	0.0233	0	0.1018	0.0012	0	--	0.0011
October	2021	0.0395	0	0.0016	0	0.319	0.0811	0.004	--	0.0131
November	2021	0.141	0.0163	0.0071	0.0003	0.2947	0.1085	0	--	0.0369
December	2021	0.0617	0.1588	0.0077	0.0187	0.0262	0.0602	0	--	0.0057
January	2022	0.2234	0.1426	0.019	0.0258	0.0838	0.0649	0	--	0.0133
February	2022	0.1777	0.1486	0.0146	0.0174	0.0598	0.1113	0	--	0.0075
March	2022	0.1119	0.14	0.0089	0.0231	0.066	0.1072	0	--	0.0126
April	2022	0.13	0	0.0203	0	0.0973	0.0923	0	--	0.0024
May	2022	0.1879	0.0413	0.0181	0.0111	0.0505	0.0098	0	--	0.0013
June	2022	0.2153	0.163	0.0127	0.001	0.0114	0.0052	0	--	0.0007
July	2022	0.2138	0.0928	0.0178	0	0.0966	0.0753	0.0047	--	0.0016
August	2022	0.2126	0.1654	0.0122	0.0012	0.0141	0.0092	0	--	0.002
September	2022	0.0723	0.0598	0.0046	0	0.2355	0.1217	0	--	0.0012
October	2022	0	0	0	0	0.3325	0.4359	0	--	0.0115
November	2022	0	0	0	0	0.3711	0.0716	0.0002	--	0.037
December	2022	0.064	0.1163	0	0.013	0.236	0.8886	0.0002	--	0.0211

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Potential and Projected Actual Emissions
Two (2) Rentech Boilers, 182.09 MMBtu/hr each - Natural Gas Firing

Scenario	Potential Operation	Projected Operation
Fuel:	Natural Gas	Natural Gas
Number of Boilers:	2	2
Hours of Operation per Unit (hr/yr/unit):	8,760	4,584
Boiler Rating per Unit (MMBtu/hr/unit):	182.09	180.6
Fuel Use per Unit (scf/hr/unit) ¹ :	175,966	174,559
Fuel Use per Unit(MMscf/yr/unit):	1,541	800.18
Fuel Use per Unit (MMBtu/yr/unit):	1,595,108	828,023

At 99.2 % Load

Emissions presented in the tables below are on a "per boiler" basis.

Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source	Emissions (lb/hr)	Emissions (lb/day)	PTE (tpy)	Projected Actual (tpy)
Criteria:							
Particulate Matter - Filt only	1.9	lb/10 ⁶ scf	AP-42 Table 1.4-2	3.34E-01	8.02	1.46	0.76
Particulate Matter <10 microns (PM ₁₀) - Filt+Cond.	7.6	lb/10 ⁶ scf	AP-42 Table 1.4-2	1.34E+00	32.10	5.86	3.04
Particulate Matter < 2.5 microns (PM _{2.5}) - Filt+Con	7.6	lb/10 ⁶ scf	AP-42 Table 1.4-2	1.34E+00	32.10	5.86	3.04
Sulfur Dioxide (SO ₂)	0.6	lb/10 ⁶ scf	AP-42 Table 1.4-2	1.06E-01	2.53	0.46	0.24
Nitrogen Oxides (NO _x) ²		lb/MMBTU	Vendor Data	6.73E+00	161.55	29.48	15.30
Volatile Organic Compounds (VOC)	5.5	lb/10 ⁶ scf	AP-42 Table 1.4-2	9.68E-01	23.23	4.24	2.20
Carbon Monoxide (CO) ²		lb/MMBTU	Vendor Data	6.83E+00	163.91	29.91	15.53
HAP:				See table below	3.32E-01	7.98	1.46E+00
GHG ³:						<u>Metric</u>	<u>Metric</u>
						<u>Tonne/year</u>	<u>Tonne/year</u>
Carbon Dioxide (CO ₂)	53.06	kg/MMBTU	Table C-1 40 CFR 98, Subpart C	---		84,636.45	43,934.90
Methane (CH ₄)	1.00E-03	kg/MMBTU	Table C-2 40 CFR 98, Subpart C	---		1.60E+00	0.83
Nitrous Oxide (N ₂ O)	1.00E-04	kg/MMBTU	Table C-2 40 CFR 98, Subpart C	---		1.60E-01	0.08

1. UMD higher heating value used in emission factor conversion (based on fuel analysis in Feb 2024); Btu/scf 1034.80

2. NOx = 30 ppmvd@3% O2; CO = 50 ppmvd@3% O2. (Vendor Data - See Appendix F)

$$\frac{lb}{MMBtu} = ppm * 10^{-6} * \frac{1}{molar\ volume} * Molar\ Weight * F_d * \frac{20.9}{(20.9 - \%O_2)}$$

Input	Value
Molar Volume (dscf/lb-mol at 1 atm and 60 °F)	379.73
Fd Factor dscf/MMBTU (EPA Method 19, Table 19-2)	8710
Corrected Oxygen (%)	3
Pollutant	Molar Weight
NOx (as NO2; lb/lb-mol)	46.01
CO (lb/lb-mol)	28.01
Pollutant	ppmvd@3%O2
NOx	30
CO	50
	lb/MMBTU
	0.0370
	0.0375

3. GHG emissions calculated in accordance with the following equation (Tier 1 approach for units <250 mmbtu/hr where no monthly data is available of the actual HHV) obtained from 40 CFR Part 98, Subpart C:

CO₂ or CH₄ or N₂O = Fuel * HHV * EF * Conv

Fuel = Mass or volume of the fuel combusted, from company records (mass or volume per year).

HHV = Default high heat value of the fuel from Table C-1 of 40 CFR Part 98, Subpart C.

EF = Fuel-specific default emission factor (kg / mmbtu) for CO2 from Tables C-1 and C-2 of 40 CFR Part 98, Subpart C.

Conv = kg/metric ton conversion 1000 kg/metric tonne

1 metric tonne = 1.1023 short tons

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Emissions Calculations
Potential and Projected Actual Emissions
Two (2) Rentech Boilers, 182.09 MMBtu/hr each - Natural Gas Firing

Natural Gas Boiler HAP Emissions

Pollutant	Emission Factor ¹	Emission Factor Units	Emissions (lb/hr)	PTE (tpy)	Projected Future Actual (tpy)
2-Methylnaphthalene	2.40E-05	lb/10 ⁶ scf	4.22E-06	1.85E-05	9.60E-06
3-Methylcholanthrene	1.80E-06	lb/10 ⁶ scf	3.17E-07	1.39E-06	7.20E-07
7,12- Dimethylbenz(a)anthracene	1.60E-05	lb/10 ⁶ scf	2.82E-06	1.23E-05	6.40E-06
Acenaphthene	1.80E-06	lb/10 ⁶ scf	3.17E-07	1.39E-06	7.20E-07
Acenaphthylene	1.80E-06	lb/10 ⁶ scf	3.17E-07	1.39E-06	7.20E-07
Anthracene	2.40E-06	lb/10 ⁶ scf	4.22E-07	1.85E-06	9.60E-07
Benz(a)anthracene	1.80E-06	lb/10 ⁶ scf	3.17E-07	1.39E-06	7.20E-07
Benzene	2.10E-03	lb/10 ⁶ scf	3.70E-04	1.62E-03	8.40E-04
Benzo(a)pyrene	1.20E-06	lb/10 ⁶ scf	2.11E-07	9.25E-07	4.80E-07
Benzo(b)fluoranthene	1.80E-06	lb/10 ⁶ scf	3.17E-07	1.39E-06	7.20E-07
Benzo(g,h,i)perylene	1.20E-06	lb/10 ⁶ scf	2.11E-07	9.25E-07	4.80E-07
Benzo(k)fluoranthene	1.80E-06	lb/10 ⁶ scf	3.17E-07	1.39E-06	7.20E-07
Chrysene	1.80E-06	lb/10 ⁶ scf	3.17E-07	1.39E-06	7.20E-07
Dibenzo(a,h)anthracene	1.20E-06	lb/10 ⁶ scf	2.11E-07	9.25E-07	4.80E-07
Dichlorobenzene	1.20E-03	lb/10 ⁶ scf	2.11E-04	9.25E-04	4.80E-04
Fluoranthene	3.00E-06	lb/10 ⁶ scf	5.28E-07	2.31E-06	1.20E-06
Fluorene	2.80E-06	lb/10 ⁶ scf	4.93E-07	2.16E-06	1.12E-06
Formaldehyde	7.50E-02	lb/10 ⁶ scf	1.32E-02	5.78E-02	3.00E-02
Hexane	1.80E+00	lb/10 ⁶ scf	3.17E-01	1.39E+00	7.20E-01
Indeno(1,2,3-cd)pyrene	1.80E-06	lb/10 ⁶ scf	3.17E-07	1.39E-06	7.20E-07
Naphthalene	6.10E-04	lb/10 ⁶ scf	1.07E-04	4.70E-04	2.44E-04
Phenanathrene	1.70E-05	lb/10 ⁶ scf	2.99E-06	1.31E-05	6.80E-06
Pyrene	5.00E-06	lb/10 ⁶ scf	8.80E-07	3.85E-06	2.00E-06
Toluene	3.40E-03	lb/10 ⁶ scf	5.98E-04	2.62E-03	1.36E-03
Arsenic	2.00E-04	lb/10 ⁶ scf	3.52E-05	1.54E-04	8.00E-05
Beryllium	1.20E-05	lb/10 ⁶ scf	2.11E-06	9.25E-06	4.80E-06
Cadmium	1.10E-03	lb/10 ⁶ scf	1.94E-04	8.48E-04	4.40E-04
Chromium	1.40E-03	lb/10 ⁶ scf	2.46E-04	1.08E-03	5.60E-04
Cobalt	8.40E-05	lb/10 ⁶ scf	1.48E-05	6.47E-05	3.36E-05
Lead	5.00E-04	lb/10 ⁶ scf	8.80E-05	3.85E-04	2.00E-04
Manganese	3.80E-04	lb/10 ⁶ scf	6.69E-05	2.93E-04	1.52E-04
Mercury	2.60E-04	lb/10 ⁶ scf	4.58E-05	2.00E-04	1.04E-04
Nickel	2.10E-03	lb/10 ⁶ scf	3.70E-04	1.62E-03	8.40E-04
Selenium	2.40E-05	lb/10 ⁶ scf	4.22E-06	1.85E-05	9.60E-06
Total HAP			3.32E-01	1.46E+00	7.56E-01

1. Emissions factors for Natural Gas fired boilers from AP-42 Tables 1.4-3 and 1.4-4.

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Emissions Calculations
Potential and Projected Actual Emissions
Two (2) Rentech Boilers, 182.09 MMBtu/hr each - ULSD

Fuel:	Ultra low sulfur diesel
Number of Boilers:	2
Hours of Operation per unit (hr/yr/unit):	48
Boiler Rating per unit (MMBtu/hr/unit):	175.08
Fuel Use per unit (gal/hr/unit) ¹ :	1,268.7
Fuel Use per unit (Mgal/yr/unit):	60.9

Emissions presented in the tables below are on a "per boiler" basis.

Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source	Emissions (lb/hr)	Emissions (lb/day)	Projected Actual (tpy)
Criteria:						
Particulate Matter - Filt only	2.00E+00	lb/10 ³ gal	AP-42 Tables 1.3-1 and 1.3-2	2.54	60.90	0.06
Particulate Matter <10 microns (PM ₁₀) - Filt+Cond.	2.30E+00	lb/10 ³ gal	AP-42 Tables 1.3-2 and 1.3-6	2.92	70.03	0.07
Particulate Matter < 2.5 microns (PM _{2.5}) - Filt+Cond.	1.55E+00	lb/10 ³ gal	AP-42 Tables 1.3-2 and 1.3-6	1.97	47.20	0.05
Sulfur Dioxide (SO ₂) ²	2.13E-01	lb/10 ³ gal	AP-42 Table 1.3-1	0.27	6.49	0.01
Nitrogen Oxides (NO _x) ³		lb/MMBtu	Vendor Data	15.93	382.41	0.38
Volatile Organic Compounds (VOC)	2.00E-01	lb/10 ³ gal	AP-42 Table 1.3-3	0.25	6.09	0.01
Carbon Monoxide (CO) ³		lb/MMBtu	Vendor Data	6.93	166.29	0.17
HAP:			See table below	0.092	2.21	0.002
GHG ⁴:						<u>Metric Tonne/year</u>
Carbon Dioxide (CO ₂)	73.96	kg/MMBtu	Table C-1 40 CFR 98, Subpart C	---		621.55
Methane (CH ₄)	3.00E-03	kg/MMBtu	Table C-2 40 CFR 98, Subpart C	---		0.03
Nitrous Oxide (N ₂ O)	6.00E-04	kg/MMBtu	Table C-2 40 CFR 98, Subpart C	---		0.01

1. Heat input per 40 CFR 98 Subpart C Table C-1 (MMBtu/gal):

0.138

2. ULSD sulfur content (15 ppm)

0.0015

3. NO_x = 70 ppmvd@3% O₂; CO = 50 ppmvd@3% O₂. (Vendor Data - See Appendix F)

$$\frac{\text{lb}}{\text{MMBtu}} = \text{ppm} * 10^{-6} * \frac{1}{\text{molar volume}} * \text{Molar Weight} * F_d * \frac{20.9}{(20.9 - \%O_2)}$$

Input	Value
Molar Volume (dscf/lb-mol at 1 atm and 60 °F)	379.73
Fd Factor dscf/MMBtu (EPA Method 19, Table 19-2)	9190
Corrected Oxygen (%)	3
Pollutant	Molar Weight
NO _x (as NO ₂ ; lb/lb-mol)	46.01
CO (lb/lb-mol)	28.01
Pollutant	ppmvd@3%O ₂
NO _x	70
CO	50
	lb/MMBtu
	0.0910
	0.0396

4. GHG emissions calculated in accordance with the following equation (Tier 1 approach for units <250 mmbtu/hr where no monthly data is available of the actual HHV) obtained from 40 CFR Part 98, Subpart C:

$$CO_2 \text{ or } CH_4 \text{ or } N_2O = \text{Fuel} * \text{HHV} * \text{EF} * \text{Conv}$$

Fuel = Mass or volume of the fuel combusted, from company records (mass or volume per year).

HHV = Default high heat value of the fuel from Table C-1 of 40 CFR Part 98, Subpart C.

EF = Fuel-specific default emission factor (kg / mmbtu) for CO₂ from Tables C-1 and C-2 of 40 CFR Part 98, Subpart C.

Conv = kg/metric ton conversion 1000 kg/metric tonne

ULSD Boiler HAP Emissions

Pollutant	Emission Factor ^{1,2}	Emission Factor Units	Emissions (lb/hr)	Emissions (tpy)
Arsenic	4.0	lb/10 ¹² Btu	7.00E-04	1.68E-05
Beryllium	3.0	lb/10 ¹² Btu	5.25E-04	1.26E-05
Cadmium	3.0	lb/10 ¹² Btu	5.25E-04	1.26E-05
Chromium	3.0	lb/10 ¹² Btu	5.25E-04	1.26E-05
Copper	6.0	lb/10 ¹² Btu	1.05E-03	2.52E-05
Lead	9.0	lb/10 ¹² Btu	1.58E-03	3.78E-05
Mercury	3.0	lb/10 ¹² Btu	5.25E-04	1.26E-05
Manganese	6.0	lb/10 ¹² Btu	1.05E-03	2.52E-05
Nickel	3.0	lb/10 ¹² Btu	5.25E-04	1.26E-05
Selenium	15.0	lb/10 ¹² Btu	2.63E-03	6.30E-05
Zinc	4.0	lb/10 ¹² Btu	7.00E-04	1.68E-05
Polycyclic Organic Matter	3.30E-03	lb/10 ³ gal	4.19E-03	1.00E-04
Formaldehyde ²	6.10E-02	lb/10 ³ gal	7.74E-02	1.86E-03
Total HAP			9.19E-02	2.21E-03

1. Emissions factors for No. 2 fuel oil fired boilers from AP-42 Table 1.3-8 and 1.3-10

2. The maximum of the emission factor range from Table 1.3-8 was used in this calculation

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Emissions Calculations
Potential and Projected Actual Emissions
Rentech Boilers - Pilot Mode, 9.25 MMBtu/hr each - Natural Gas Firing

Scenario	Potential Operation	Projected Operation
Fuel:	Natural Gas	Natural Gas
Number of units:	2	2
Hours of Operation per unit (hr/yr/unit):	8,760	1,812
Pilot Burner Rating per unit (MMBtu/hr/unit):	9.25	9.25
Fuel Use per unit (scf/hr/unit) ¹ :	8,939	8,939
Fuel Use per unit (MMscf/yr/unit):	78.30	16.20
Fuel Use per unit (MMBtu/yr/unit):	81,030	16,761

Emissions presented in the tables below are on a "per unit" basis.

Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source	Emissions (lb/hr)	Emissions (lb/day)	PTE (tpy)	Projected Actual (tpy)
Criteria:							
Particulate Matter - Filt only	1.9	lb/10 ⁶ scf	AP-42 Table 1.4-2	1.70E-02	0.41	0.07	0.02
Particulate Matter <10 microns (PM ₁₀) - Filt+Cond.	7.6	lb/10 ⁶ scf	AP-42 Table 1.4-2	6.79E-02	1.63	0.30	0.06
Particulate Matter < 2.5 microns (PM _{2.5}) - Filt+Cond.	7.6	lb/10 ⁶ scf	AP-42 Table 1.4-2	6.79E-02	1.63	0.30	0.06
Sulfur Dioxide (SO ₂)	0.6	lb/10 ⁶ scf	AP-42 Table 1.4-2	5.36E-03	0.13	0.02	0.00
Nitrogen Oxides (NO _x) ²		lb/MMBTU	Vendor Data	2.28E+00	54.71	9.98	2.07
Volatile Organic Compounds (VOC)		lb/MMBTU	Vendor Data	2.78E-01	6.66	1.22	0.25
Carbon Monoxide (CO) ²		lb/MMBTU	Vendor Data	6.94E+00	166.53	30.39	6.29
HAP:			See table below	1.69E-02	0.41	7.39E-02	1.53E-02
GHG ² :						Metric Tonne/year	Metric Tonne/year
Carbon Dioxide (CO ₂)	53.06	kg/MMBtu	Table C-1 40 CFR 98, Subpart C	---		4,299.45	889.34
Methane (CH ₄)	1.00E-03	kg/MMBtu	Table C-2 40 CFR 98, Subpart C	---		8.10E-02	0.02
Nitrous Oxide (N ₂ O)	1.00E-04	kg/MMBtu	Table C-2 40 CFR 98, Subpart C	---		8.10E-03	0.00

1. UMD higher heating value used in emission factor conversion (based on fuel analysis in Feb 2024); Btu/scf

2. NO_x = 200 ppmvd@3% O₂; CO = 1,000 ppmvd@3% O₂. (Vendor Data - See Appendix F)

$$\frac{\text{lb}}{\text{MMBtu}} = \text{ppm} \times 10^{-6} \times \frac{1}{\text{molar volume}} \times \text{Molar Weight} \times F_d \times \frac{20.9}{(20.9 - \%O_2)}$$

	Input	Value
Molar Volume (dscf/lb-mol at 1 atm and 60 °F)		379.73
Fd Factor dscf/MMBtu (EPA Method 19, Table 19-2)		8710
Corrected Oxygen (%)		3
Pollutant	Molar Weight	
NO _x (as NO ₂ ; lb/lb-mol)	46.01	
CO (lb/lb-mol)	28.01	
Pollutant	ppmvd@1%O ₂	lb/MMBtu
NO _x	200	0.2464
CO	1000	0.7502

3. GHG emissions calculated in accordance with the following equation (Tier 1 approach for units <250 mmbtu/hr where no monthly data is available of the actual HHV) obtained from 40 CFR

Part 98, Subpart C:

CO₂ or CH₄ or N₂O = Fuel * HHV * EF * Conv

Fuel = Mass or volume of the fuel combusted, from company records (mass or volume per year).

HHV = Default high heat value of the fuel from Table C-1 of 40 CFR Part 98, Subpart C.

EF = Fuel-specific default emission factor (kg / mmbtu) for CO₂ from Tables C-1 and C-2 of 40 CFR Part 98, Subpart C.

Conv = kg/metric ton conversion 1000 kg/metric tonne

Natural Gas Pilot Burner HAP Emissions

Pollutant	Emission Factor ¹	Emission Factor Units	Emissions (lb/hr)	PTE (tpy)	Projected Future Actual (tpy)
2-Methylnaphthalene	2.40E-05	lb/10 ⁶ scf	2.15E-07	9.40E-07	1.94E-07
3-Methylcholanthrene	1.80E-06	lb/10 ⁶ scf	1.61E-08	7.05E-08	1.46E-08
7,12- Dimethylbenz(a)anthracene	1.60E-05	lb/10 ⁶ scf	1.43E-07	6.26E-07	1.30E-07
Acenaphthene	1.80E-06	lb/10 ⁶ scf	1.61E-08	7.05E-08	1.46E-08
Acenaphthylene	1.80E-06	lb/10 ⁶ scf	1.61E-08	7.05E-08	1.46E-08
Anthracene	2.40E-06	lb/10 ⁶ scf	2.15E-08	9.40E-08	1.94E-08
Benz(a)anthracene	1.80E-06	lb/10 ⁶ scf	1.61E-08	7.05E-08	1.46E-08
Benzene	2.10E-03	lb/10 ⁶ scf	1.88E-05	8.22E-05	1.70E-05
Benzo(a)pyrene	1.20E-06	lb/10 ⁶ scf	1.07E-08	4.70E-08	9.72E-09
Benzo(b)fluoranthene	1.80E-06	lb/10 ⁶ scf	1.61E-08	7.05E-08	1.46E-08
Benzo(g,h,i)perylene	1.20E-06	lb/10 ⁶ scf	1.07E-08	4.70E-08	9.72E-09
Benzo(k)fluoranthene	1.80E-06	lb/10 ⁶ scf	1.61E-08	7.05E-08	1.46E-08
Chrysene	1.80E-06	lb/10 ⁶ scf	1.61E-08	7.05E-08	1.46E-08
Dibenzo(a,h)anthracene	1.20E-06	lb/10 ⁶ scf	1.07E-08	4.70E-08	9.72E-09
Dichlorobenzene	1.20E-03	lb/10 ⁶ scf	1.07E-05	4.70E-05	9.72E-06
Fluoranthene	3.00E-06	lb/10 ⁶ scf	2.68E-08	1.17E-07	2.43E-08
Fluorene	2.80E-06	lb/10 ⁶ scf	2.50E-08	1.10E-07	2.27E-08
Formaldehyde	7.50E-02	lb/10 ⁶ scf	6.70E-04	2.94E-03	6.07E-04
Hexane	1.80E+00	lb/10 ⁶ scf	1.61E-02	7.05E-02	1.46E-02
Indeno(1,2,3-cd)pyrene	1.80E-06	lb/10 ⁶ scf	1.61E-08	7.05E-08	1.46E-08
Naphthalene	6.10E-04	lb/10 ⁶ scf	5.45E-06	2.39E-05	4.94E-06
Phenanthrene	1.70E-05	lb/10 ⁶ scf	1.52E-07	6.66E-07	1.38E-07
Pyrene	5.00E-06	lb/10 ⁶ scf	4.47E-08	1.96E-07	4.05E-08
Toluene	3.40E-03	lb/10 ⁶ scf	3.04E-05	1.33E-04	2.75E-05
Arsenic	2.00E-04	lb/10 ⁶ scf	1.79E-06	7.83E-06	1.62E-06
Beryllium	1.20E-05	lb/10 ⁶ scf	1.07E-07	4.70E-07	9.72E-08
Cadmium	1.10E-03	lb/10 ⁶ scf	9.83E-06	4.31E-05	8.91E-06
Chromium	1.40E-03	lb/10 ⁶ scf	1.25E-05	5.48E-05	1.13E-05
Cobalt	8.40E-05	lb/10 ⁶ scf	7.51E-07	3.29E-06	6.80E-07
Lead	5.00E-04	lb/10 ⁶ scf	4.47E-06	1.96E-05	4.05E-06
Manganese	3.80E-04	lb/10 ⁶ scf	3.40E-06	1.49E-05	3.08E-06
Mercury	2.60E-04	lb/10 ⁶ scf	2.32E-06	1.02E-05	2.11E-06
Nickel	2.10E-03	lb/10 ⁶ scf	1.88E-05	8.22E-05	1.70E-05
Selenium	2.40E-05	lb/10 ⁶ scf	2.15E-07	9.40E-07	1.94E-07
Total HAP			1.69E-02	7.39E-02	1.53E-02

1. Emissions factors for Natural Gas fired boilers from AP-42 Tables 1.4-3 and 1.4-4.

University of Maryland, College Park
NextGen Project Air Permitting
Emissions Calculations
Potential and Projected Actual Emissions
One (1) Solar Titan 130, Dual-Fuel 16.5 MW Combustion Turbine - Natural Gas Firing

	Potential Operation	Projected Operation
Fuel:	Natural Gas	Natural Gas
Number of Combustion Turbines:	1	1
Hours of Operation per Unit (hr/yr/unit):	8,760	8,352
Boiler Rating per Unit (MMBtu/hr/unit):	171.9	138.7
Fuel Use per Unit (scf/hr/unit) ¹ :	166,119	134,058
Fuel Use per Unit(MMscf/yr/unit):	1,455	1119.65
Fuel Use per Unit (MMBtu/yr/unit):	1,505,844	1,158,617

At 80.7 % Load

Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source	Emissions (lb/hr)	Emissions (lb/day)	PTE (tpy)	Projected Actual (tpy)
Criteria:							
Particulate Matter - Filt only	1.90E-03	lb/MMBTU	AP-42 Table 3.1-2a	3.27E-01	7.84	1.43	1.10
Particulate Matter <10 microns (PM ₁₀) - Filt+Cond.	6.60E-03	lb/MMBTU	AP-42 Table 3.1-2a	1.13E+00	27.23	4.97	3.82
Particulate Matter < 2.5 microns (PM _{2.5}) - Filt+Cond.	6.60E-03	lb/MMBTU	AP-42 Table 3.1-2a	1.13E+00	27.23	4.97	3.82
Sulfur Dioxide ² (SO ₂)	3.40E-03	lb/MMBTU	AP-42 Table 3.1-2a	5.84E-01	14.03	2.56	1.97
Nitrogen Oxides (NO _x) ³		lb/MMBTU	Vendor Data	9.64E+00	231.35	42.22	32.49
Volatile Organic Compounds (VOC) ³		lb/MMBTU	Vendor Data	1.12E+00	26.88	4.91	3.78
Carbon Monoxide (CO) ³		lb/MMBTU	Vendor Data	9.78E+00	234.73	42.84	32.96
HAP:			See table below	1.77E-01	4.24E+00	7.73E-01	5.95E-01
GHG ⁴:						<u>Metric</u> <u>Tonne/year</u>	<u>Metric</u> <u>Tonne/year</u>
Carbon Dioxide (CO ₂)	53.06	kg/MMBtu	Table C-1 40 CFR 98, Subpart C	---		79,900.08	61,476.22
Methane (CH ₄)	1.00E-03	kg/MMBtu	Table C-2 40 CFR 98, Subpart C	---		1.51E+00	1.16
Nitrous Oxide (N ₂ O)	1.00E-04	kg/MMBtu	Table C-2 40 CFR 98, Subpart C	---		1.51E-01	0.12

1. UMD higher heating value used in emission factor conversion (based on fuel analysis in Feb 2024); Btu/scf 1034.80
2. AP-42 Table 3.1-2a states all sulfur in the fuel is assumed to be converted to SO₂. 0.94 is to be multiplied by the fuel's sulfur content
- Natural Gas sulfur content (%) 0
3. Vendor estimates during Natural Gas firing: NO_x = 15 ppmvd@15% O₂; CO = 25 ppmvd@15% O₂ and VOC = 5 ppmvd@15% O₂.

$$\frac{\text{lb}}{\text{MMBtu}} = \text{ppm} \times 10^{-6} \times \frac{1}{\text{molar volume}} \times \text{Molar Weight} \times F_d \times \frac{20.9}{(20.9 - \%O_2)}$$

Input		Value
Molar Volume (dscf/lb-mol at 1 atm and 60 °F)		379.73
Fd Factor dscf/MMBtu (EPA Method 19, Table 19-2)		8710
Corrected Oxygen (%)		15
Pollutant		Molar Weight
NOx (as NO2; lb/lb-mol)		46.01
CO (lb/lb-mol)		28.01
VOC (as methane; lb/lb-mol)		16.04
Pollutant	ppmvd@15%O2	lb/MMBtu
NOx	15	0.0561
CO	25	0.0569
VOC	5	0.0065

4. GHG emissions calculated in accordance with the following equation (Tier 1 approach for units <250 mmbtu/hr where no monthly data is available of the actual HHV) obtained from 40 CFR Part 98, Subpart C:
- CO₂ or CH₄ or N₂O = Fuel * HHV * EF * Conv
- Fuel = Mass or volume of the fuel combusted, from company records (mass or volume per year).
- HHV = Default high heat value of the fuel from Table C-1 of 40 CFR Part 98, Subpart C.
- EF = Fuel-specific default emission factor (kg / mmbtu) for CO2 from Tables C-1 and C-2 of 40 CFR Part 98, Subpart C.
- Conv = kg/metric ton conversion 1000 kg/metric tonne

Natural Gas Turbine HAP Emissions¹

Pollutant	Emission Factor	Emission Factor Units	Emissions (lb/hr)	Emissions (tpy)	Projected Actual (tpy)
1,3-Butadiene	4.30E-07	lb/MMBTU	7.39E-05	3.24E-04	2.49E-04
Acetaldehyde	4.00E-05	lb/MMBTU	6.88E-03	3.01E-02	2.32E-02
Acrolein	6.40E-06	lb/MMBTU	1.10E-03	4.82E-03	3.71E-03
Benzene	1.20E-05	lb/MMBTU	2.06E-03	9.04E-03	6.95E-03
Ethylbenzene	3.20E-05	lb/MMBTU	5.50E-03	2.41E-02	1.85E-02
Formaldehyde	7.10E-04	lb/MMBTU	1.22E-01	5.35E-01	4.11E-01
Naphthalene	1.30E-06	lb/MMBTU	2.23E-04	9.79E-04	7.53E-04
PAH	2.20E-06	lb/MMBTU	3.78E-04	1.66E-03	1.27E-03
Propylene Oxide	2.90E-05	lb/MMBTU	4.99E-03	2.18E-02	1.68E-02
Toluene	1.30E-04	lb/MMBTU	2.23E-02	9.79E-02	7.53E-02
Xylenes	6.40E-05	lb/MMBTU	1.10E-02	4.82E-02	3.71E-02
Total HAP			1.77E-01	7.73E-01	5.95E-01

1. Emissions factors for Natural Gas fired stationary gas turbines from AP-42 Table 3.1-3

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Emissions Calculations
Potential and Projected Actual Emissions
One (1) Solar Titan 130, dual-fuel 16.5 MW Combustion Turbine - ULSD

Fuel:	Ultra low sulfur diesel
Number of Combustion Turbines:	1
Hours of Operation per unit (hr/yr/unit):	48
Rating per unit (MMBtu/hr/unit):	158.2
Fuel Use per unit (gal/hr/unit) ¹ :	1,146
Fuel Use per unit (Mgal/yr/unit):	55

Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source	Emissions (lb/hr)	Emissions (lb/day)	Projected Actual (tpy)
Criteria:						
Particulate Matter - Filt only	4.30E-03	lb/MMBtu	AP-42 Table 3.1-2a	6.80E-01	16.33	0.02
Particulate Matter <10 microns (PM ₁₀) - Filt+Cond.	1.20E-02	lb/MMBtu	AP-42 Table 3.1-2a	1.90E+00	45.56	0.05
Particulate Matter < 2.5 microns (PM _{2.5}) - Filt+Cond.	1.20E-02	lb/MMBtu	AP-42 Table 3.1-2a	1.90E+00	45.56	0.05
Sulfur Dioxide ² (SO ₂)	1.52E-03	lb/MMBtu	AP-42 Table 3.1-2a	2.40E-01	5.75	0.01
Nitrogen Oxides (NO _x) ³		lb/MMBtu	Vendor Data	4.06E+01	973.46	0.97
Volatile Organic Compounds (VOC) ³		lb/MMBtu	Vendor Data	5.44E+00	130.53	0.13
Carbon Monoxide (CO) ³		lb/MMBtu	Vendor Data	9.50E+00	227.93	0.23
HAP:				2.04E-01	4.89E+00	4.89E-03
GHG ⁴:						(metric tpy)
Carbon Dioxide (CO ₂)	73.96	kg/MMBtu	Table C-1 40 CFR 98, Subpart C	---		561.62
Methane (CH ₄)	3.00E-03	kg/MMBtu	Table C-2 40 CFR 98, Subpart C	---		2.28E-02
Nitrous Oxide (N ₂ O)	6.00E-04	kg/MMBtu	Table C-2 40 CFR 98, Subpart C	---		4.56E-03

1. Heat input per 40 CFR 98 Subpart C Table C-1 (MMBtu/gal): 0.138
2. ULSD sulfur content (15 ppm): 0.0015
3. Vendor estimates during ULSD firing: NO_x = 65 ppmvd@15% O₂; CO = 25 ppmvd@15% O₂ and VOC = 25 ppmvd@15% O₂.

$$\frac{\text{lb}}{\text{MMBtu}} = \text{ppm} \times 10^{-6} \times \frac{1}{\text{molar volume}} \times \text{Molar Weight} \times F_d \times \frac{20.9}{(20.9 - \%O_2)}$$

Input	Value	
Molar Volume (dscf/lb-mol at 1 atm and 60 °F)	379.73	
Fd Factor dscf/MMBtu (EPA Method 19, Table 19-2)	9190	
Corrected Oxygen (%)	15	
Pollutant	Molar Weight	
NO _x (as NO ₂ ; lb/lb-mol)	46.01	
CO (lb/lb-mol)	28.01	
VOC (as methane; lb/lb-mol)	16.04	
	Pollutant	ppmvd@15%O ₂
	NO _x	65
	CO	25
	VOC	25
		lb/MMBtu
		0.2564
		0.0600
		0.0344

4. GHG emissions calculated in accordance with the following equation (Tier 1 approach for units <250 mmbtu/hr where no monthly data is available of the actual HHV) obtained from 40 CFR Part CO₂ or CH₄ or N₂O = Fuel * HHV * EF * Conv
Fuel = Mass or volume of the fuel combusted, from company records (mass or volume per year).
HHV = Default high heat value of the fuel from Table C-1 of 40 CFR Part 98, Subpart C.
EF = Fuel-specific default emission factor (kg / mmbtu) for CO₂ from Tables C-1 and C-2 of 40 CFR Part 98, Subpart C.
Conv = kg/metric ton conversion 1000 kg/metric tonne

ULSD Turbine HAP Emissions

Pollutant	Emission Factor ¹	Emission Factor Units	Emissions (lb/hr)	Emissions (tpy)
1-2-Butadiene	1.60E-05	lb/MMBtu	2.53E-03	6.07E-05
Benzene	5.50E-05	lb/MMBtu	8.70E-03	2.09E-04
Formaldehyde	2.80E-04	lb/MMBtu	4.43E-02	1.06E-03
Naphthalene	3.50E-05	lb/MMBtu	5.54E-03	1.33E-04
PAH	4.00E-05	lb/MMBtu	6.33E-03	1.52E-04
Arsenic	1.10E-05	lb/MMBtu	1.74E-03	4.18E-05
Beryllium	3.10E-07	lb/MMBtu	4.90E-05	1.18E-06
Cadmium	4.80E-06	lb/MMBtu	7.59E-04	1.82E-05
Chromium	1.10E-05	lb/MMBtu	1.74E-03	4.18E-05
Lead	1.40E-05	lb/MMBtu	2.21E-03	5.32E-05
Manganese	7.90E-04	lb/MMBtu	1.25E-01	3.00E-03
Mercury	1.20E-06	lb/MMBtu	1.90E-04	4.56E-06
Nickel	4.60E-06	lb/MMBtu	7.28E-04	1.75E-05
Selenium	2.50E-05	lb/MMBtu	3.95E-03	9.49E-05
Total HAP			2.04E-01	4.89E-03

1. Emissions factors for No. 2 Fuel Oil fired stationary gas turbines from AP-42 Table 3.1-4 and Table 3.1-5.

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Emissions Calculations
Potential and Projected Actual Emissions
One (1) Duct Burner - Natural Gas Firing

Scenario	Potential Operation	Projected Operation
Fuel:	Natural Gas	Natural Gas
Number of HRSG Duct Burners:	1	1
Hours of Operation (hr/yr):	8,760	8,400
Rating (MMBtu/hr):	92.0	74.2
Fuel Use (scf/hr) ¹ :	88,906	71,747
Fuel Use (MMscf/yr):	779	603
Fuel Use (MMBtu/yr):	805,920	623,650

At 80.7 % Load

Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source	Emissions (lb/hr)	Emissions (lb/day)	PTE (tpy)	Projected Actual (tpy)
Criteria:							
Particulate Matter - Filt only	1.9	lb/10 ⁶ scf	AP-42 Table 1.4-2	1.69E-01	4.05	0.74	0.57
Particulate Matter <10 microns (PM ₁₀) - Filt+Cond.		lb/MMBTU	Vendor Data	6.85E-04	0.02	3.10	2.40
Particulate Matter < 2.5 microns (PM _{2.5}) - Filt+Cond.		lb/MMBTU	Vendor Data	6.85E-04	0.02	3.10	2.40
Sulfur Dioxide (SO ₂)	0.6	lb/10 ⁶ scf	AP-42 Table 1.4-2	5.33E-02	1.28	0.23	0.18
Nitrogen Oxides (NO _x)		lb/MMBTU	Manufacturer's Data	9.20E+00	220.80	40.30	31.18
Volatile Organic Compounds (VOC)		lb/MMBTU	Vendor Data	8.89E-04	0.02	4.03	3.12
Carbon Monoxide (CO)		lb/MMBTU	Manufacturer's Data	7.54E+00	181.06	33.04	25.57
HAP:			See table below	1.68E-01	4.03	7.35E-01	5.69E-01
GHG ²:						<u>Metric</u>	<u>Metric</u>
						<u>Tonne/year</u>	<u>Tonne/year</u>
Carbon Dioxide (CO ₂)	53.06	kg/MMBTU	Table C-1 40 CFR 98, Subpart C	---		42,762.12	33,090.85
Methane (CH ₄)	1.00E-03	kg/MMBTU	Table C-2 40 CFR 98, Subpart C	---		8.06E-01	0.62
Nitrous Oxide (N ₂ O)	1.00E-04	kg/MMBTU	Table C-2 40 CFR 98, Subpart C	---		8.06E-02	0.06

1. UMD higher heating value used in emission factor conversion (based on fuel analysis in Feb 2024); Btu/scf 1034.80

2. GHG emissions calculated in accordance with the following equation (Tier 1 approach for units <250 mmbtu/hr where no monthly data is available of the actual HHV) obtained from 40 CFR Part 98, Subpart C:

CO₂ or CH₄ or N₂O = Fuel * HHV * EF * Conv

Fuel = Mass or volume of the fuel combusted, from company records (mass or volume per year).

HHV = Default high heat value of the fuel from Table C-1 of 40 CFR Part 98, Subpart C.

EF = Fuel-specific default emission factor (kg / mmbtu) for CO₂ from Tables C-1 and C-2 of 40 CFR Part 98, Subpart C.

Conv = kg/metric ton conversion 1000 kg/metric tonne

University of Maryland, College Park
NextGen Project Air Permitting
Emissions Calculations
Potential and Projected Actual Emissions
One (1) Duct Burner - Natural Gas Firing

Natural Gas Boiler HAP Emissions

Pollutant	Emission Factor ¹	Emission Factor Units	Emissions (lb/hr)	PTE (tpy)	Projected Future Actual (tpy)
2-Methylnaphthalene	2.40E-05	lb/10 ⁶ scf	2.13E-06	9.35E-06	7.23E-06
3-Methylcholanthrene	1.80E-06	lb/10 ⁶ scf	1.60E-07	7.01E-07	5.42E-07
7,12- Dimethylbenz(a)anthracene	1.60E-05	lb/10 ⁶ scf	1.42E-06	6.23E-06	4.82E-06
Acenaphthene	1.80E-06	lb/10 ⁶ scf	1.60E-07	7.01E-07	5.42E-07
Acenaphthylene	1.80E-06	lb/10 ⁶ scf	1.60E-07	7.01E-07	5.42E-07
Anthracene	2.40E-06	lb/10 ⁶ scf	2.13E-07	9.35E-07	7.23E-07
Benz(a)anthracene	1.80E-06	lb/10 ⁶ scf	1.60E-07	7.01E-07	5.42E-07
Benzene	2.10E-03	lb/10 ⁶ scf	1.87E-04	8.18E-04	6.33E-04
Benzo(a)pyrene	1.20E-06	lb/10 ⁶ scf	1.07E-07	4.67E-07	3.62E-07
Benzo(b)fluoranthene	1.80E-06	lb/10 ⁶ scf	1.60E-07	7.01E-07	5.42E-07
Benzo(g,h,i)perylene	1.20E-06	lb/10 ⁶ scf	1.07E-07	4.67E-07	3.62E-07
Benzo(k)fluoranthene	1.80E-06	lb/10 ⁶ scf	1.60E-07	7.01E-07	5.42E-07
Chrysene	1.80E-06	lb/10 ⁶ scf	1.60E-07	7.01E-07	5.42E-07
Dibenzo(a,h)anthracene	1.20E-06	lb/10 ⁶ scf	1.07E-07	4.67E-07	3.62E-07
Dichlorobenzene	1.20E-03	lb/10 ⁶ scf	1.07E-04	4.67E-04	3.62E-04
Fluoranthene	3.00E-06	lb/10 ⁶ scf	2.67E-07	1.17E-06	9.04E-07
Fluorene	2.80E-06	lb/10 ⁶ scf	2.49E-07	1.09E-06	8.44E-07
Formaldehyde	7.50E-02	lb/10 ⁶ scf	6.67E-03	2.92E-02	2.26E-02
Hexane	1.80E+00	lb/10 ⁶ scf	1.60E-01	7.01E-01	5.42E-01
Indeno(1,2,3-cd)pyrene	1.80E-06	lb/10 ⁶ scf	1.60E-07	7.01E-07	5.42E-07
Naphthalene	6.10E-04	lb/10 ⁶ scf	5.42E-05	2.38E-04	1.84E-04
Phenanthrene	1.70E-05	lb/10 ⁶ scf	1.51E-06	6.62E-06	5.12E-06
Pyrene	5.00E-06	lb/10 ⁶ scf	4.45E-07	1.95E-06	1.51E-06
Toluene	3.40E-03	lb/10 ⁶ scf	3.02E-04	1.32E-03	1.02E-03
Arsenic	2.00E-04	lb/10 ⁶ scf	1.78E-05	7.79E-05	6.03E-05
Beryllium	1.20E-05	lb/10 ⁶ scf	1.07E-06	4.67E-06	3.62E-06
Cadmium	1.10E-03	lb/10 ⁶ scf	9.78E-05	4.28E-04	3.31E-04
Chromium	1.40E-03	lb/10 ⁶ scf	1.24E-04	5.45E-04	4.22E-04
Cobalt	8.40E-05	lb/10 ⁶ scf	7.47E-06	3.27E-05	2.53E-05
Lead	5.00E-04	lb/10 ⁶ scf	4.45E-05	1.95E-04	1.51E-04
Manganese	3.80E-04	lb/10 ⁶ scf	3.38E-05	1.48E-04	1.15E-04
Mercury	2.60E-04	lb/10 ⁶ scf	2.31E-05	1.01E-04	7.83E-05
Nickel	2.10E-03	lb/10 ⁶ scf	1.87E-04	8.18E-04	6.33E-04
Selenium	2.40E-05	lb/10 ⁶ scf	2.13E-06	9.35E-06	7.23E-06
Total HAP			1.68E-01	7.35E-01	5.69E-01

1. Emissions factors for Natural Gas fired boilers from AP-42 Tables 1.4-3 and 1.4-4.

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Emissions Calculations
Potential Emissions
One (1) 2,346 bhp Diesel Fired Emergency Generator

Fuel:	Ultra low sulfur diesel
Number of Generators:	1
Maximum Hours of Operation (hr/yr):	100
Maximum Generator Rating (kWe):	1,500
Maximum Generator Output (kWm) :	1,750
Maximum Generator Rating (MMBTU/hr) ¹ :	17.75
Maximum Fuel Use (gal/hr) @ 100% Load:	128.6
Maximum Fuel Use (Mgal/yr):	12.9

Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source	Emissions (lb/hr)	Emissions (tpy)
Criteria:					
Particulate Matter - Filt.	Load Dependent	g/kW-hr	Vendor Data - See Appendix F	0.41	0.02
Particulate Matter <10 microns (PM ₁₀) - Filt+Cond.	0.0573	lb/MMBTU	AP-42 Section 3.4, Table 3.4.2	1.02	0.05
Particulate Matter < 2.5 microns (PM _{2.5}) - Filt+Cond.	0.0573	lb/MMBTU	Assume that PM _{2.5} = PM ₁₀	1.02	0.05
Sulfur Dioxide (SO ₂) ²	1.52E-03	lb/MMBTU	AP-42 Section 3.4, Table 3.4.1 (ULSD = 0.0015% S)	0.03	1.34E-03
Nitrogen Oxides (NO _x)	Load Dependent	g/kW-hr	Vendor Data - See Appendix F	27.01	1.35
Volatile Organic Compounds (VOC)	Load Dependent	g/kW-hr	Vendor Data - See Appendix F	1.62	0.08
Carbon Monoxide (CO)	Load Dependent	g/kW-hr	Vendor Data - See Appendix F	3.09	0.15
HAP:			See table below	0.028	1.40E-03
GHG ³:					Metric
					Tonne/year
Carbon Dioxide (CO ₂)	73.96	kg/MMBtu	Table C-1 40 CFR 98, Subpart C	---	131.26
Methane (CH ₄)	3.00E-03	kg/MMBtu	Table C-2 40 CFR 98, Subpart C	---	5.32E-03
Nitrous Oxide (N ₂ O)	6.00E-04	kg/MMBtu	Table C-2 40 CFR 98, Subpart C	---	1.06E-03

- Heat input per 40 CFR 98 Subpart C Table C-1 (MMBTU/gal): 0.138
- Diesel sulfur content (15 ppm) 0.0015
- GHG emissions calculated in accordance with the following equation (Tier 1 approach for units <250 mmbtu/hr where no monthly data is available of the actual HHV) obtained from 40 CFR Part 98, Subpart C:
CO₂ or CH₄ or N₂O = Fuel * HHV * EF * Conv
Fuel = Mass or volume of the fuel combusted, from company records (mass or volume per year).
HHV = Default high heat value of the fuel from Table C-1 of 40 CFR Part 98, Subpart C.
EF = Fuel-specific default emission factor (kg / mmbtu) for CO₂ from Tables C-1 and C-2 of 40 CFR Part 98, Subpart C.
Conv = kg/metric ton conversion 1000 kg/metric tonne

Fuel Consumption at 100% Load = [REDACTED] (Vendor spec sheet - See Appendix F)
Fuel Consumption at 100% Load = [REDACTED]
Fuel Consumption at 100% Load = [REDACTED]
Density of No. 2 Fuel Oil = 7.05 lb/gal (<https://www3.epa.gov/ttnchie1/ap42/appendix/appa.pdf>)
Heat Input to Engine at 100% Load = 128.6 gal/hr

	100% Load	75% Load	50% Load	25% Load	Max (lb/hr)
Power (kWm)	1750	1313	845	438	
NOx (g/kWh)					27.007
CO (g/kWh)					3.086
HC (g/kWh)					1.621
PM (g/kWh)					0.405

ULSD Generator HAP Emissions

Pollutant	Emission Factor ¹	Emission Factor Units	Emissions (lb/hr)	Emissions (tpy)
Benzene	7.76E-04	lb/MMBTU	1.38E-02	6.89E-04
Toluene	2.81E-04	lb/MMBTU	4.99E-03	2.49E-04
Xylenes	1.93E-04	lb/MMBTU	3.43E-03	1.71E-04
Formaldehyde	7.89E-05	lb/MMBTU	1.40E-03	7.00E-05
Acetaldehyde	2.52E-05	lb/MMBTU	4.47E-04	2.24E-05
Acrolein	7.88E-06	lb/MMBTU	1.40E-04	6.99E-06
Polycyclic Aromatic Hydrocarbons (PAH)	2.12E-04	lb/MMBTU	3.76E-03	1.88E-04
Total HAP			2.79E-02	1.40E-03

1. Emissions factors for No. 2 fuel oil fired generators from AP-42 Table 3.4-3 and 3.4-4

Appendix B. MDE Forms

[The contents of this appendix have been redacted or removed due to confidential and proprietary vendor specific information.]



AIR QUALITY PERMIT TO CONSTRUCT APPLICATION CHECKLIST

OWNER OF EQUIPMENT/PROCESS	
COMPANY NAME:	University of Maryland
COMPANY ADDRESS:	2119A Thomas V. Miller Jr Administration Bldg, 7901 Regents Drive, College Park, MD 20742
LOCATION OF EQUIPMENT/PROCESS	
PREMISES NAME:	Central Energy Plant
PREMISES ADDRESS:	7743 Baltimore Avenue, College Park, MD 20740
CONTACT INFORMATION FOR THIS PERMIT APPLICATION	
CONTACT NAME:	Jason Baer
JOB TITLE:	Assistant Director, Office of Environmental Affairs
PHONE NUMBER:	202-441-6391
EMAIL ADDRESS:	jbaer123@umd.edu
DESCRIPTION OF EQUIPMENT OR PROCESS	
Installation of steam and power generating equipment at the Central Energy Plant.	

Application is hereby made to the Department of the Environment for a Permit to Construct for the following equipment or process as required by the State of Maryland Air Quality Regulation, COMAR 26.11.02.09.

Check each item that you have submitted as part of your application package.

- ☒ Application package cover letter describing the proposed project
- ☒ Complete application forms (Note the number of forms included or NA if not applicable.)

No. <u>N/A</u> Form 5	No. <u>1</u> Form 11
No. <u>N/A</u> Form 5T	No. <u>N/A</u> Form 41
No. <u>N/A</u> Form 5EP	No. <u>1</u> Form 42
No. <u>N/A</u> Form 6	No. <u>1</u> Form 44
No. <u>N/A</u> Form 10	
- ☒ Vendor/manufacturer specifications/guarantees
- ☒ Evidence of Workman's Compensation Insurance
- ☒ Process flow diagrams with emission points
- ☒ Site plan including the location of the proposed source and property boundary
- ☒ Material balance data and all emissions calculations
- ☐ Material Safety Data Sheets (MSDS) or equivalent information for materials processed and manufactured.
- ☒ Certificate of Public Convenience and Necessity (CPCN) waiver documentation from the Public Service Commission ⁽¹⁾
- ☐ Documentation that the proposed installation complies with local zoning and land use requirements ⁽²⁾

⁽¹⁾ Required for emergency and non-emergency generators installed on or after October 1, 2001 and rated at 2001 kW or more.

⁽²⁾ Required for applications subject to Expanded Public Participation Requirements.

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Blvd ■ Baltimore, Maryland 21230
(410) 537-3230 ■ 1-800-633-6101 ■ www.mde.state.md.us

Air and Radiation Management Administration ■ Air Quality Permits Program

APPLICATION FOR FUEL BURNING EQUIPMENT

Permit to Construct ☒

Registration Update ☐

Initial Registration ☐

1A. Owner of Equipment/Company Name University of Maryland		DO NOT WRITE IN THIS BOX 2. Registration Number <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> County No. <div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> 1-2 </div> <div style="text-align: center;"> Premises No. <div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div> 3-6 </div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Registration Class <div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> 7 </div> <div style="text-align: center;"> Equipment No. <div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div> 6-11 </div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Data Year <div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> 12-13 </div> <div style="text-align: center;"> Application Date <div style="border-bottom: 1px solid black; width: 100px; margin: 0 auto;"></div> </div> </div>																						
Mailing Address/Street 2119A Thomas V. Miller Jr Administration Bldg, 7901 Regents Drive																								
City College Park State MD Zip Code 20742																								
Telephone Number 301-405-6214																								
Print Name/Title Charles Robert Reuning, Interim Vice President and Chief Administrative Officer																								
Signature: <i>Charles R. Reuning</i>		Date: 12/13/2024																						
1B. Equipment Location (if different from above give Street Number and Name, City, State, Zip and Telephone Number): Central Energy Plant, 7743 Baltimore Avenue, College Park, MD 20740																								
Premises Name (if different from above):																								
<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">3. Status</th> <th style="text-align: center;">New Construction Began (MM/YY)</th> <th style="text-align: center;">New Construction Completed (MM/YY)</th> <th style="text-align: center;">Existing Initial Operation (MM/YY)</th> </tr> <tr> <td style="vertical-align: top;"> A= New Equipment B= Modification to Existing Equipment C= Existing Equipment </td> <td style="text-align: center; vertical-align: top;"> <div style="border: 1px solid black; padding: 2px;">A</div> <div style="border: 1px solid black; padding: 2px;">1 0 2 5</div> 15 16-19 </td> <td style="text-align: center; vertical-align: top;"> <div style="border: 1px solid black; padding: 2px;">0 9 2 6</div> 20-23 </td> <td style="text-align: center; vertical-align: top;"> <div style="border: 1px solid black; padding: 2px;"></div> <div style="border: 1px solid black; padding: 2px;"></div> 20-23 </td> </tr> </table>				3. Status	New Construction Began (MM/YY)	New Construction Completed (MM/YY)	Existing Initial Operation (MM/YY)	A= New Equipment B= Modification to Existing Equipment C= Existing Equipment	<div style="border: 1px solid black; padding: 2px;">A</div> <div style="border: 1px solid black; padding: 2px;">1 0 2 5</div> 15 16-19	<div style="border: 1px solid black; padding: 2px;">0 9 2 6</div> 20-23	<div style="border: 1px solid black; padding: 2px;"></div> <div style="border: 1px solid black; padding: 2px;"></div> 20-23													
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4. Describe this Equipment (Make, Model, Features, Manufacturer, etc.): Two (2) 182.09 MMBtu/hr Rentech Boilers with burners capable of being turned down to 9.25 MMBtu/hr (Pilot Mode), ZEECO low-NOx burners and FGR																								
5. Workmen's Compensation Coverage: Binder/Policy Number: 902317																								
Company Name: IWIF Expiration Date: N/A																								
NOTE: Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Worker's Compensation Act.																								
6. Number of Pieces of Identical Equipment to be Registered/Permitted at this Time: 2 (Boilers)																								
7. Person Installing this Equipment (if different from above give Name/Title, Company Name, Mailing Address and Telephone Number): Esai Dominguez, EPC Project Manager, Kiewit Corporation, 7743 Baltimore Ave, Bldg 001, College Park, Maryland 20740; 402-630-0824																								
8. Major Activity, Product or Service of Company at this Location: <h2 style="margin: 0;">Steam Generation for the Campus</h2>																								
9. Control Devices Associated with this Equipment																								
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">None <input checked="" type="checkbox"/> 24-0</td> <td style="text-align: center;">Simple/Multiple Cyclones <input type="checkbox"/> 24-1</td> <td style="text-align: center;">Spray/Adsorb Tower <input type="checkbox"/> 24-2</td> <td style="text-align: center;">Venturi Scrubber <input type="checkbox"/> 24-3</td> <td style="text-align: center;">Carbon Adsorber <input type="checkbox"/> 24-4</td> <td style="text-align: center;">Electrostatic Precipitator <input type="checkbox"/> 24-5</td> <td style="text-align: center;">Bag-house <input type="checkbox"/> 24-6</td> </tr> <tr> <td colspan="7"></td> </tr> <tr> <td colspan="2" style="text-align: center;">Thermal/Catalytic Afterburner <input type="checkbox"/> 24-7</td> <td style="text-align: center;">Dry Scrubber <input type="checkbox"/> 24-8</td> <td style="text-align: center;">Other <input type="checkbox"/> 24-9</td> <td colspan="3" style="text-align: center;">Describe _____</td> </tr> </table>				None <input checked="" type="checkbox"/> 24-0	Simple/Multiple Cyclones <input type="checkbox"/> 24-1	Spray/Adsorb Tower <input type="checkbox"/> 24-2	Venturi Scrubber <input type="checkbox"/> 24-3	Carbon Adsorber <input type="checkbox"/> 24-4	Electrostatic Precipitator <input type="checkbox"/> 24-5	Bag-house <input type="checkbox"/> 24-6								Thermal/Catalytic Afterburner <input type="checkbox"/> 24-7		Dry Scrubber <input type="checkbox"/> 24-8	Other <input type="checkbox"/> 24-9	Describe _____		
None <input checked="" type="checkbox"/> 24-0	Simple/Multiple Cyclones <input type="checkbox"/> 24-1	Spray/Adsorb Tower <input type="checkbox"/> 24-2	Venturi Scrubber <input type="checkbox"/> 24-3	Carbon Adsorber <input type="checkbox"/> 24-4	Electrostatic Precipitator <input type="checkbox"/> 24-5	Bag-house <input type="checkbox"/> 24-6																		
Thermal/Catalytic Afterburner <input type="checkbox"/> 24-7		Dry Scrubber <input type="checkbox"/> 24-8	Other <input type="checkbox"/> 24-9	Describe _____																				



Annual consumption of oil and natural gas are not intended to be permit limits. For each pollutant, UMD is requesting umbrella limits including the two boilers, the combustion turbine and duct burner.

10. Annual Fuel Consumption for this Equipment Only

OIL-1000 GALLONS <div>1 2 1 . 7 9</div> <div>26-31</div>	SULFUR % <div>0 0</div> <div>32-33</div> <div>Note: ULSD</div>	GRADE <div>2</div> <div>34</div>	NATURAL GAS-1000 FT ³ <div>1 6 3 2 7 4 8</div> <div>35-41</div> <div>Note: Natural gas consumption is for both boilers in main and pilot mode.</div>	LP GAS-100 GALLONS <div></div> <div>42-45</div>	GRADE <div></div> <div>64-65</div>
COAL-TONS <div></div> <div>46-52</div>	SULFUR % <div></div> <div>53-55</div>	ASH% <div></div> <div>56-58</div>	WOOD-TONS <div></div> <div>59-63</div>	MOISTURE % <div></div> <div>64-65</div>	
OTHER FUELS (Specify Type)	<div></div> 66-1	ANNUAL AMOUNT CONSUMED (Specify Units of Measure)	OTHER FUEL (Specify Type)	<div></div> 66-2	ANNUAL AMOUNT CONSUMED (Specify Units of Measure)
1= Coke 2= COG 3=BFG 4=Other					

11. Operating Schedule (for this equipment)

Comfort/Space Heating Only <div></div> 67-1	Process Heat Only <div></div> 67-2	Percent Process Heat <div>1 00</div> 68-69	Oil Burner Type <div>3</div> 70	1=Pressure Gun 2=Air Atomizer 3=Steam Atomizer 4=Rotary Cup	Coal Burner Type <div></div> 71	1=Cyclone 2=Stoker 3=Pulverized 4=Hand Fired
SEASONAL VARIATION IN OPERATION (PERCENT):						
Days Per Week <div>7</div> 72	Days Per Year <div>3 6 5</div> 73-75	None <div></div> 76	Winter <div></div> 77-78	Spring <div></div> 79-80	Summer <div></div> 81-82	Fall <div></div> 83-84

12. Exhaust Stack Information

Height Above Ground (ft) <div>8 5</div> 86-88	Inside Diameter at Top (inches) <div>5 8</div> 89-91	Exit Temperature (°F) <div>3 0 4</div> 92-95	Exit Velocity (ft/sec) <div>5 0</div> 96-98	100% load and natural gas firing	100% load and natural gas firing
--	---	---	--	----------------------------------	----------------------------------

13. Total Stack Emissions (for this equipment only) in Pounds Per Operating Day Refer to Appendix A for emissions

Particulate Matter <div></div> 99-104	Oxides of Sulfur <div></div> 105-110	Oxides of Nitrogen <div></div> 111-116
Carbon Monoxide <div></div> 117-122	Volatile Organic Compounds <div></div> 123-128	PM-10 <div></div> 129-134

14. Method Used to Determine Emissions (1=Estimate, 2=AP42, 3=Stack Test, 4=Other Emission Factor)

TSP <div>2</div> 165	SOx <div>2</div> 166	NOx <div>4</div> 167	CO <div>4</div> 168	VOC <div>2</div> 169	PM10 <div>2</div> 170
-------------------------	-------------------------	-------------------------	------------------------	-------------------------	--------------------------

15. What is the Maximum Rated Heat Input of this Unit (Million Btu/hr)? 182.09 (NG) and 175.08 (ULSD)

16. Date Rec'd Local _____ Date Rec'd State _____

Return to Local Jurisdiction Date _____ By _____

Rev'd by Local Jurisdiction: Date _____ By _____ Rev'd by State: Date _____ By _____

Acknowledgement Sent by State: Date _____ By _____

17. Inventory Date (MM/YY)

<div></div> 171-174	SCC Code <div></div> 178-185
---------------------	---------------------------------

18. Annual Operating Rate

<div></div> 186-192	Maximum Design Hourly Rate <div></div> 193-199
---------------------	---

Permit to Operate Month

200-201

Transaction Date

202-207

Staff Code

208-210

VOC

211 212

SIP Code

213 214

Regulation Code

215-218

Confidentiality

219

Point Description

220-238

Action

239

A: Add
C: Change



MARYLAND DEPARTMENT OF THE ENVIRONMENT
Air and Radiation Management Administration / Air Quality Permits Program
1800 Washington Boulevard, STE 720 Baltimore, MD 21230-1720
(410) 537-3230 • 1-800-633-6101 • www.mde.state.md.us

Mail application to

MDE/ARMA

**1800 Washington Blvd, Suite 720
Baltimore, MD 21230-1720**

Don't forget to:

- ✓ Sign the application
- ✓ Include vendor literature

Air Quality Permit to Construct & Registration Application for
INTERNAL COMBUSTION ENGINES
(Electrical Power Generators, Power Equipment, Fire Protection Pumps)

1) Applicability

You must check off one the following items to use this application form

- ☒ Electrical power generation (off grid, base load, peak, load shaving,, etc)
 - Use MDE Form 42 for emergency use only generators
- ☐ Power equipment (hydraulic, mechanical, etc)
- ☐ Fire protection pump

For electrical power generators only, you must check off one the following items to use this application form

- ☒ I have a CPCN Exemption from the Public Service Commission for this generator
(contact the Public Service Commission at 410.767.8131)
- ☐ This generator was installed before October 1, 2001 and I do not need a CPCN Exemption

2) Business/Institution/Facility where the engine will be located

☐ Check if this is a federal facility

Name: University of Maryland Phone: 202-441-6391
Street Address: 7743 Baltimore Avenue
City: College Park State: MD Zip Code: 20740 County: Prince George's

3) Owner/Operator of the engine (if different than above)

Name: University of Maryland Phone: 301-405-6214
Mailing Address: 2119A Thomas V. Miller Jr Administration Bldg, 7901 Regents Drive
City: College Park State: MD Zip Code: 20742

4) Installer

☐ Check if installer is applying for permit. If checked, complete the following:

Name: Esai Dominguez, Kiewit Corporation Phone: 402-630-0824
Mailing Address: 7743 Baltimore Ave, Bldg 001
City: College Park State: MD Zip Code: 20740



5) Engine Information

TBD	Cleaver Books MF 5(SS)-93 HRSG	92 MMBtu/hr	In progress	NG	NG = Natural Gas ULSD = Ultra Low Sulfur Diesel
TBD	Solar Titan 130 Turbine	23,470 hp	In progress	NG / ULSD	
Installation Date	Engine Manufacturer & Model	Horsepower	Manufacture Date	Fuel Type	

6) Operating Information

Intended use description: (Examples, "a portable generator at a construction site" or "peak shaving with the emergency generator", etc)

Steam and power generation plant for the University of Maryland

Varies	Approx. 8352	These are the projected annual hours of operation for the combustion turbine and the duct burner (each). This is not intended to be an operating limit.
Hours per day	Hours per year	

7) Required Attachments

(Check that they are attached)


- ☒ Vendor literature
- ☒ CPCN Exemption from the Public Service Commission
 - Electrical generators only
 - Not needed for generators installed before October 1, 2001

8) Workers Compensation (Environmental article §1-202)

Workers insurance policy or binder number: IWIF Policy [REDACTED] See Attached

☐ Check if self employed or otherwise exempt from this requirement

"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

	Charles Robert Reuning, Interim Vice President and Chief Administrative Officer	12/13/2024
Owners Signature	Printed Name & Title	Date

LEAVE BLANK, MDE use only

- ☐ Permit
- ☐ Registration (Less than 1,000 brake horsepower & installed prior to 11/24/03)

Permit/Registration Number: _____ - _____ - _____ - _____

AI: _____

Emissions Stack _____

Fugitive
SOx _____ Nox _____ CO _____ VOC _____ PM _____ PM-10 _____

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Air and Radiation Management Administration • Air Quality Permits Program
1800 Washington Boulevard • Baltimore, Maryland 21230
(410)537-3230 • 1-800-633-6101 • www.mde.state.md.us

Mail application to

MDE/ARMA
1800 Washington Blvd, Suite 720
Baltimore, MD 21230-1720

Air Quality Permit to Construct & Registration Application for
EMERGENCY GENERATOR

You must check off all of the following items to be able to use this application form

- ☒ This generator is a dedicated emergency backup generator, and will not be used for peak or load shaving.
- ☒ This generator is powered by an internal combustion engine, not a turbine
- ☒ This generator's engine is at least 500 brake horsepower (373 kilowatts)
(Smaller emergency engines do not need a permit)

AND

You must check off one of the following items to be able to use this application form

- ☒ I do not need a CPCN Exemption because the generator is rated at 2000 kW or less
- ☐ I do not need a CPCN Exemption because the generator was installed before October 1, 2001
- ☐ I have a CPCN Exemption from the Public Service Commission for this generator
(Contact the Public Service Commission at 410.767.8131)

1) Business/Institution/Facility where the equipment will be located			<input type="checkbox"/> Check if this is a federal facility
Business/Institution/Facility Name: <div style="text-align: center;">University of Maryland</div>		Phone: 202-441-6391	
Contact Person's Name: <div style="text-align: center;">Jason Baer</div>		Email Address: jbaer123@umd.edu	
Street Address: <div style="text-align: center;">7743 Baltimore Avenue</div>			
City: College Park	State: MD	Zip Code: 20740	County: Prince George's

2) Owner <input checked="" type="checkbox"/> Check if different from above. If checked, complete the following:		
Name: <div style="text-align: center;">University of Maryland</div>	Phone: 301-405-6214	
Mailing Address: <div style="text-align: center;">2119A Thomas V. Miller Jr Administration Bldg, 7901 Regents Drive</div>		
City: College Park	State: MD	Zip Code: 20742

3) Installer <input checked="" type="checkbox"/> Check if different from above. If checked, complete the following:		
Contact Name: Esai Dominguez	Contact Company: Kiewit Corporation	Phone: 402-630-0824

4) Equipment Information

Manufacturer / Model:

Kohler 1600REOZMDInstallation Date: **2025**

☐ Yes This generator will be operated as part of an emergency demand response program.
☒ No

Number Installed: 1	Number Removed: N/A	Stack Height (feet, estimated): 16	Stack Diameter (inches, estimated): 10	
Engine Make / Model: Mitsubishi, S16R-Y2PTAW-1	EPA Tier Certified: 2	Engine Horsepower : 2,346	Engine Manufacture Date: 2024	Fuel Type: USLD

5) Required Attachments (check that you've included them)

- ☒ Vendor literature
☒ CPCN Exemption from the Public Service Commission
(not needed for generators installed before October 1, 2001, or rated at 2000 kW or less)

6) Workers Compensation Information (Environmental Article §1-202)Workers insurance policy or binder number: IWIF Policy [REDACTED] See Attached

☐ Check if self-employed or otherwise exempt from this requirement

"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."



Owners Signature

Charles Robert Reuning, Interim Vice President
and Chief Administrative Officer

Printed Name and Title

12/13/2024

Date

**LEAVE BLANK
MDE USE ONLY**

- ☐ Permit
☐ Registration (Less than 1,000 brake horsepower & installed prior to 11/24/03)

Permit/Registration Number: _____ - _____ - _____ - _____

AI: _____

Emissions

Stack _____

Fugitive	Sox	Nox	CO	VOC	PM	PM-10
----------	-----	-----	----	-----	----	-------

Appendix C. Environmental Justice Analysis

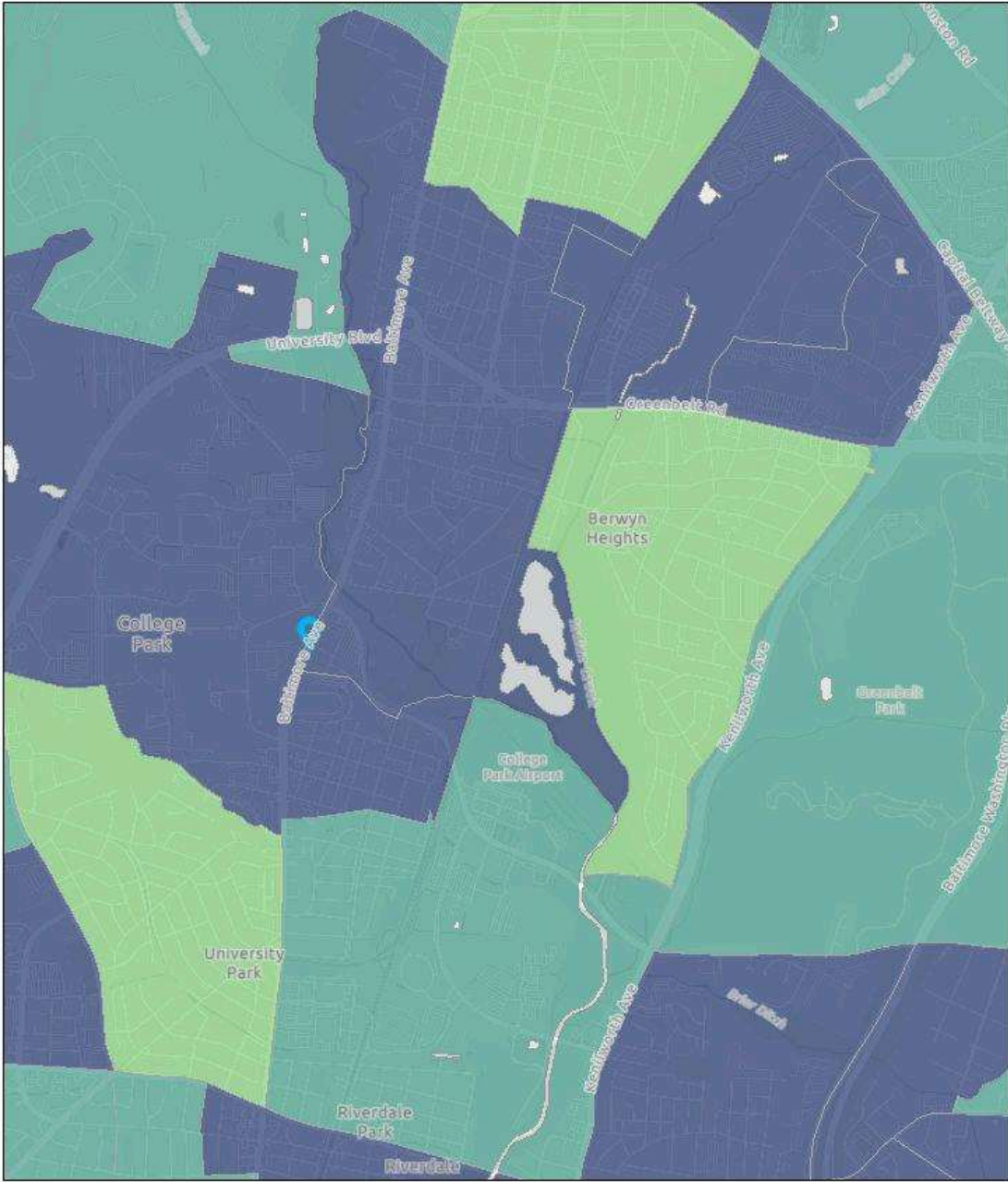


MDE Screening Report

Area of Interest (AOI) Information

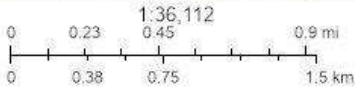
Sep 16 2024 16:43:02 Eastern Daylight Time

A4 Portrait



MDE Final EJ Score (%ile score)

- 0% - 24.9th %ile
- 25% - 49.9th %ile
- 50% - 74.9th %ile
- 75% - 100th %ile



MDE, OS, OIMT, University of Maryland, DCGIS, MNCPPC, MNCPPC, VGIN, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METV, NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

Summary

Name	Count	Area(mi²)	Length(mi)
MDE Final EJ Score (%ile score)	1	N/A	N/A
Overburdened Communities Combined Score	1	N/A	N/A
Overburdened Pollution Environmental Score (%ile score)	1	N/A	N/A
Overburdened Exposure Score (%ile score)	1	N/A	N/A
Overburdened Sensitive Population (%ile score)	1	N/A	N/A
Socioeconomic/Demographic Score 2020 (Percentile score) (Underserved Community)	1	N/A	N/A
Air Emissions Facilities	0	N/A	N/A
Sulfur Dioxide (2010)	0	N/A	N/A
Ozone (2015)	1	N/A	N/A
Fine Particles (2012)	1	N/A	N/A
Biosolids FY 2020 and Current Permit Details	0	N/A	N/A
Biosolids FY2010 - 2014 Permit Details	0	N/A	N/A
Biosolids FY2009 Expired Permit Details	0	N/A	N/A
Biosolids FY 2020 and Current Permits Distribution By Acreage	1	N/A	N/A
Biosolids FY2015 - 2019 Permits Distribution By Acreage	1	N/A	N/A
Biosolids FY2010 - 2014 Permits Distribution By Acreage	1	N/A	N/A
Biosolids FY2009 Permits Expired Distribution By Acreage	1	N/A	N/A
Biosolids FY 2020 and Current Permit Distribution By Percent Coverage	1	N/A	N/A
Biosolids FY2015 - 2019 Permit Distribution By Percent Coverage	1	N/A	N/A
Biosolids FY2010 - 2014 Permit Distribution By Percent Coverage	1	N/A	N/A
Biosolids FY2009 Expired Permit Distribution By Percent Coverage	1	N/A	N/A
Concentrated Animal Feeding Operations (CAFOs)	0	N/A	N/A
Composting Facilities	0	N/A	N/A
Food Scrap Acceptors	0	N/A	N/A
Landfills	0	N/A	N/A
Correctional Facilities	0	N/A	N/A
Industrial Food Suppliers	0	N/A	N/A

Residential Colleges	0	N/A	N/A
Non-Residential Colleges	0	N/A	N/A
Hospitals	0	N/A	N/A
High Schools	0	N/A	N/A
Grocery Stores	0	N/A	N/A
10 Miles from Landfill	3	N/A	N/A
10 Miles from Composting Facility	2	N/A	N/A
General Composting Facilities Tier 2 (MD)	0	N/A	N/A
Commercial Anaerobic Digester (MD)	0	N/A	N/A
Out of State Facilities	0	N/A	N/A
30 mile buffer (Maryland)	3	N/A	N/A
30 Mile Buffer (Out of State)	0	N/A	N/A
Land Restoration Facilities	0	N/A	N/A
Determinations (points)	0	N/A	N/A
Determinations (areas)	0	N/A	N/A
Entities	0	N/A	N/A
Active Coal Mine Sites	0	N/A	N/A
Historic Mine Facilities	0	N/A	N/A
All Permitted Solid Waste Acceptance Facilities	0	N/A	N/A
Municipal Solid Waste Acceptance Facilities	0	N/A	N/A
Maryland Dam Locations	0	N/A	N/A
Maryland Pond Locations	0	N/A	N/A
Surface Water Intakes	0	N/A	N/A
Wastewater Discharge Facilities	0	N/A	N/A
Drinking Water	0	N/A	N/A
Clean Water	0	N/A	N/A

MDE Final EJ Score (%ile score)

#	Census tract identifier	Geographic Area Name	Total Population	Final EJ Score Percent (for this tract)	Final EJ Score Percentile (Distribution across Maryland)	Area(mi ²)
1	24033807000	Census Tract 8070, Prince George's County, Maryland	7069	35.99	81.75	N/A

Overburdened Communities Combined Score

#	GEOID20	Geographic_Area_Name	TotalPop	Overburd_Exposure_Percent	Overburd_Exposure_Percentile
1	24033807000	Census Tract 8070, Prince George's County, Maryland	7,069	48.41	71.84

#	Overburd_Poll_Enviro_Percent	Overburd_Poll_Enviro_Percentile	Sensitive_Population_Percent	Sensitive_Population_Percentile	OverburdenedAIIPercent	OverburdenedAIIPercentile	Area(mi²)
1	17.01	87.15	54.55	37.94	71.29	93.85	N/A

Overburdened Pollution Environmental Score (%ile score)

#	GEOID20	Geographic_Area_Name	RentalsOccupiedPre79Percent	Percentile	PercentRMP
1	24033807000	Census Tract 8070, Prince George's County, Maryland	19.16	85.51	4.30

#	PercentRMPEJ	PercentHazWaste	PercentHazWasteEJ	PercentSuperFundNPL	PercentSuperFundNP LEJ
1	29.31	21.62	52.45	13.64	54.32

#	PercentHazWW	PercentHazWWEJ	BrownFPercent	Percentile_1	PercentPowerPlants
1	85.30	89.27	0.00	0.00	9.09

#	Percentile_12	PercentCAFOS	Percentile_12_13	PercentActiveMines	Percentile_12_13_14
1	95.42	0.00	0.00	0.00	0.00

#	PollutionEnvironmentalPercent	PollnEnvironmentalPercentile	Area(mi²)
1	17.01	87.15	N/A

Overburdened Exposure Score (%ile score)

#	GEOID20	Geographic_Area_Name	Total_Pop	PercentNATA_Cancer	Percentile_NATA_Cancer
1	24033807000	Census Tract 8070, Prince George's County, Maryland	7,069.00	60.00	50.49

#	PercentNATA_Resp_HI	Percentile_NATA_Resp_HI	PercentNATA_Diesel	Percentile_NATA_Diesel	PercentNATA_PM25
1	80.00	56.31	39.41	50.24	96.58

#	PercentileNATA_PM25	PercentOzone	PercentileOzone	PercentTraffic	PercentileTraffic
1	47.62	94.41	45.89	16.85	55.05

#	PercentTRI	PercentileTRI	PercentHazWasteLF	Percentile_HazWasteLF	PollutionExposurePercent	PollutionExposurePercentile	Area(mi²)
1	0.00	0.00	0.00	0.00	48.41	71.84	N/A

Overburdened Sensitive Population (%ile score)

#	GEOID20	Geographic_Area_Name	PerAsthma	PercentileAst	PerMyo
1	24033807000	Census Tract 8070, Prince George's County, Maryland	26.60	52.36	27.10

#	PercentileMyo	PerLow	PercentileLow	PercentBroad	PercentileBroad
1	50.92	84.30	98.70	19.60	98.36

#	PercentSens	PercentileSens	Area(mi²)
1	39.40	75.09	N/A

Socioeconomic/Demographic Score 2020 (Percentile score) (Underserved Community)

#	Census tract identifier	Geographic Area Name	Total Population	Percent Poverty	Percent Minority
1	24033807000	Census Tract 8070, Prince George's County, Maryland	7,069	41.29	60.96

#	Percent Limited English Proficiency	Demographic Score (Percent for this tract)	Demographic Score (Percentile Distribution across Maryland)	Area(mi²)
1	15.16	39.13	80.53	N/A

Ozone (2015)

#	STATEFP10	COUNTYFP10	COUNTYNS10	GEOID10	NAME10
1	24	033	01714670	24033	Prince George's

#	Ozone NAA Area	8-Hr Ozone (2015) Designation	8-HR Ozone (2015) Classification	8-Hr Ozone (2015) Status	Area(mi²)
1	Washington DC-MD-VA	Nonattainment	Moderate	No Data	N/A

Fine Particles (2012)

#	STATEFP10	COUNTYFP10	COUNTYNS10	GEOID10	NAME10	PM2.5 (2012) Status	Area(mi²)
1	24	033	01714670	24033	Prince George's	Attainment/Uncl assifiable	N/A

Biosolids FY 2020 and Current Permits Distribution By Acreage

#	County Name	FY2020andAfter	Area(mi²)
1	Prince George's	277.10	N/A

Biosolids FY2015 - 2019 Permits Distribution By Acreage

#	County Name	FY2015to2019	Area(mi²)
1	Prince George's	170.20	N/A

Biosolids FY2010 - 2014 Permits Distribution By Acreage

#	County Name	FY2010to2014	Area(mi²)
1	Prince George's	81.95	N/A

Biosolids FY2009 Permits Expired Distribution By Acreage

#	County Name	FY2009	Area(mi²)
1	Prince George's	No Data	N/A

Biosolids FY 2020 and Current Permit Distribution By Percent Coverage

#	County Name	FY2020andAfter	Area(mi²)
1	Prince George's	277.10	N/A

Biosolids FY2015 - 2019 Permit Distribution By Percent Coverage

#	County Name	FY2015to2019	Area(mi²)
1	Prince George's	170.20	N/A

Biosolids FY2010 - 2014 Permit Distribution By Percent Coverage

#	County Name	FY2010to2014	Area(mi²)
1	Prince George's	81.95	N/A

Biosolids FY2009 Expired Permit Distribution By Percent Coverage

#	County Name	FY2009	Area(mi²)
1	Prince George's	No Data	N/A

10 Miles from Landfill

#	County	Type	Facility_N	ADDRESS	FILL
1	PRINCEGEORGE'S	WPT	Recycle OnePF&TS	4700 Lawrence Street, Hyattville MD 20781.	1.8
2	PRINCEGEORGE'S	WPT	Sheriff RoadPF&TS	5800 Sheriff Road, Fairmont Heights MD 20743.	-
3	PRINCEGEORGE'S	WPF	Sun ServicesPF	11210 Somerset Avenue, Beltsville MD 20705	4.3

#	SITE__ACRE	AI_No_	Owner_Type	MD_GRID__E	PERMITNUMB	EXPIRATION	Area(mi²)
1	2.85	28,954.00	PRI	818 /400	2010-WPT-0647	9/14/2019, 8:00 PM	N/A
2	1.50	20,211.00	PRI	826 /391	2012-WPT-0218	2/20/2018, 7:00 PM	N/A
3	0.00	21,791.00	PRI	828/438	2009-WPF-0639	4/5/2016, 8:00 PM	N/A

10 Miles from Composting Facility

#	County	Facility	Address	Accepts_Fo	Location_o	Area(mi²)
1	No Data	City of College Park	9217 51st Avenue, College Park, MD 20740	No	9217 51st Ave, College Park, MD 20740	N/A
2	No Data	County Nursery Inc.	3330 Spencerville Road, Burtonsville, MD	No	3330 Spencerville Rd, Burtonsville, MD 20866	N/A

30 mile buffer (Maryland)

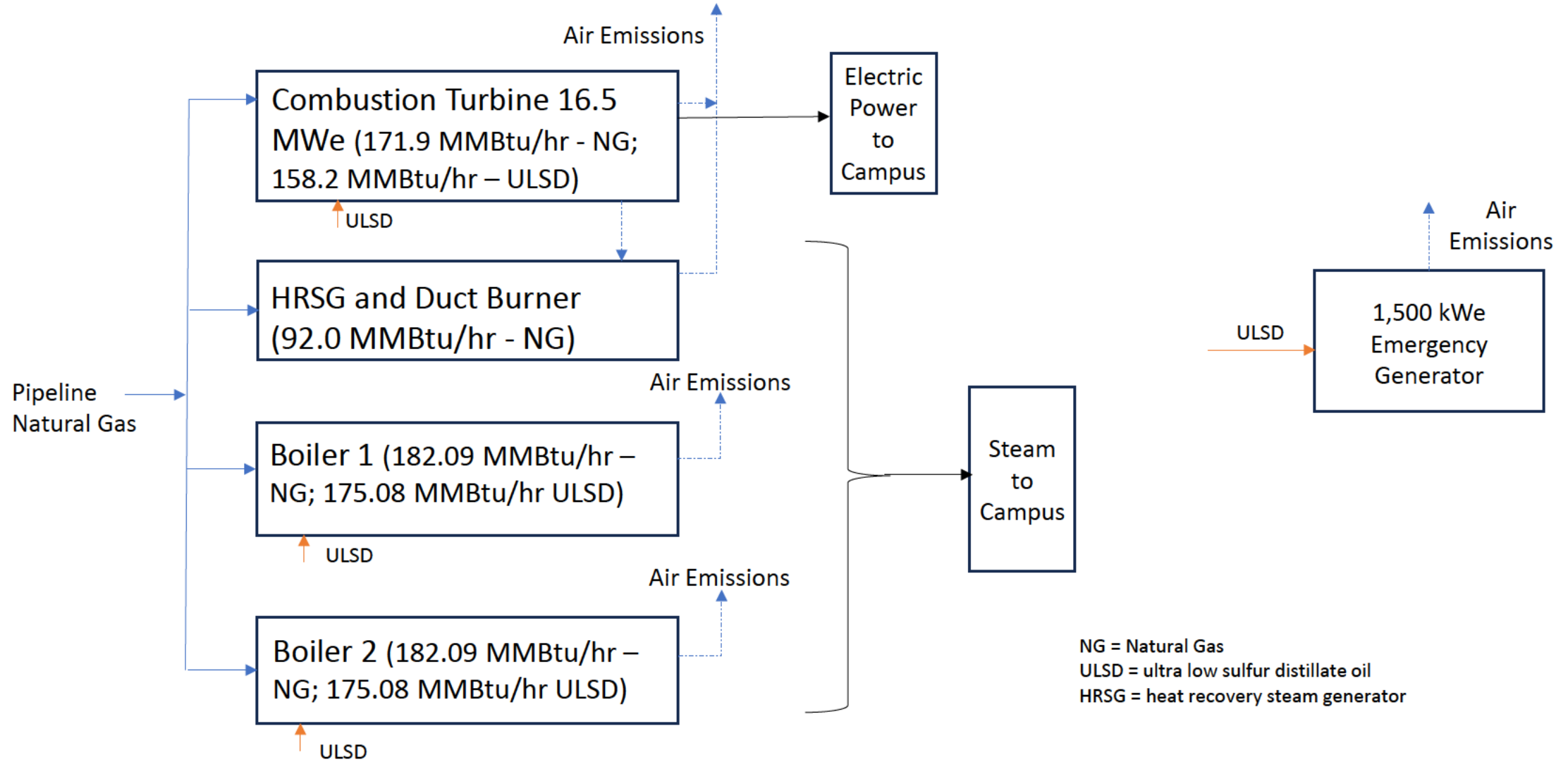
#	Facility_Name_1	Facility_Contact_1	Contact_Phone	Contact_Email_1	Contact_2
1	Bioenergy DEVCO - Maryland Organics Recycling Facility	Vinnie Bevivino	(202) 360-1805	Vbevivino@bioenergydevco.com	Mike Manna
2	Composting Facility at Alpha Ridge Landfill	Bureau of Environmental Services	(410) 313-6444	No Data	No Data
3	Prince George's County Organics Composting Facility	Angie Webb, Recycling Coordinator	(240) 904-4630	awebb@menv.com	No Data

#	Contact_2_Phone	Contact_2_Email	URL	Area(mi²)
1	(609) 744-2819	mmanna@bioenergydevco.com	https://www.bioenergydevco.com/maryland-organics-recycling-facility/	N/A
2	No Data	No Data	https://www.howardcountymd.gov/public-works/composting-facility	N/A
3	No Data	No Data	https://www.princegeorgescountymd.gov/583/Organics-Composting-Facility	N/A

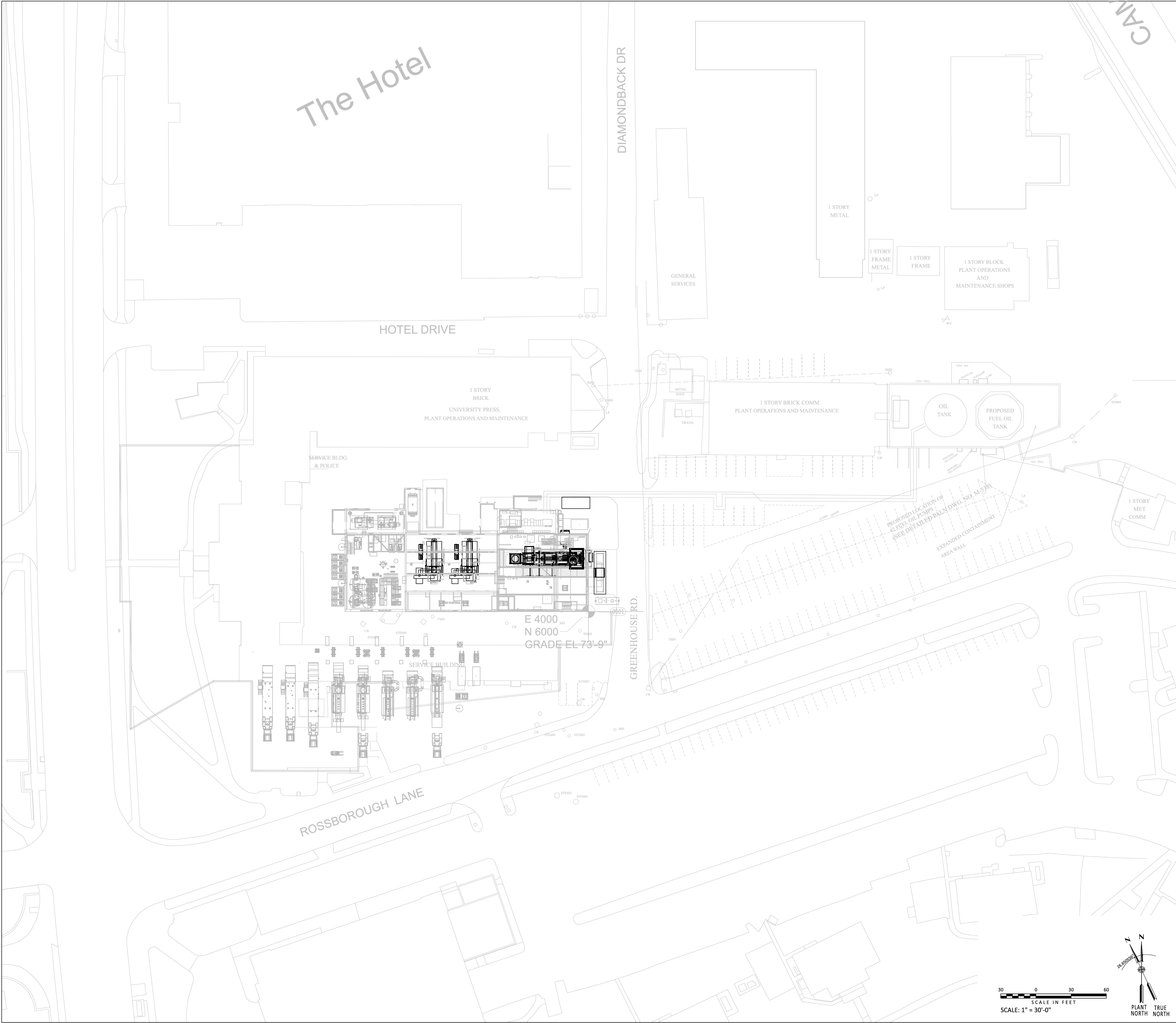
© MDE

Appendix D. Process Flow Diagram

University of Maryland, College Park Central Heating Plant
NextGen Project
Appendix D – Simplified Process Flow Diagram



Appendix E. Site Plant

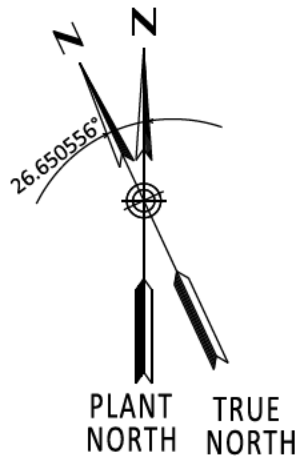
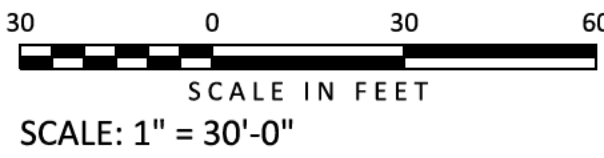


NOTES:
PLANT COORDINATES
E. 4000.000'
N. 6000.000'
MARYLAND STATE PLANE, NAD 83
E. 1330713.801'
N. 480351.888'

- PRELIMINARY -
NOT FOR CONSTRUCTION
CONFIDENTIAL

THESE DRAWINGS ARE CONFIDENTIAL IN NATURE. ANY MISUSE OR UNAUTHORIZED DISTRIBUTION OF THE DRAWINGS CONTAINED HEREIN WILL BE A VIOLATION OF THIS CONFIDENTIALITY REQUIREMENT AND SUBJECT THE VIOLATOR TO LIABILITY. REVIEW OF THESE MATERIALS BY RECIPIENT SHALL CONSTITUTE AN ACCEPTANCE OF THESE TERMS AND THE TERMS OF ANY UNDERLYING CONFIDENTIALITY AGREEMENT WE MAY HAVE EXECUTED IN OBTAINING THIS INFORMATION FROM A THIRD PARTY. IF THE RECIPIENT IS NOT IN AGREEMENT WITH THE OBLIGATION OF CONFIDENTIALITY THEN THE DRAWINGS SHALL BE RETURNED TO THE ORIGINATOR.

ISSUED FOR INFORMATION		
A	A. GOODWIN	N. YALUNG 09-26-24
REV	DESIGN BY	CHECKED BY DATE
UMD NEXTGEN PROGRAM CAMPUS ENERGY UNIVERSITY OF MARYLAND		
		PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A QUALIFIED LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. EXPIRATION DATE:
CEP STACK LOCATION		
ENGINEER/DESIGN ORIGINATOR	N. YALUNG	DRAWING NUMBER
LEAD ENG	R. ANDERSON	SKM-20035769-PP-002
ENG MGR	J. BOXLER	
PROJ MGR	C. WAGNER	



Appendix F. Vendor Equipment Specifications

[The contents of this appendix have been redacted or removed due to confidential and proprietary vendor specific information.]

Boiler Vendor Data

HRSG Vendor Data

Combustion Turbine Vendor Data

Diesel Generator Vendor Data



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2024 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION
AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: Mitsubishi Heavy Industries Engine & Turbocharger,
Ltd.
(U.S. Manufacturer or Importer)

Certificate Number: RMVXL65.4BBA-006

Effective Date:

07/10/2023

Expiration Date:

12/31/2024

Byron J. Bunker, Division Director
Compliance Division

Issue Date:

07/10/2023

Revision Date:

N/A

Model Year: 2024

Manufacturer Type: Original Engine Manufacturer

Engine Family: RMVXL65.4BBA

Mobile/Stationary Indicator: Stationary

Emissions Power Category: 560<kW<=2237

Fuel Type: Diesel

After Treatment Devices: No After Treatment Devices Installed

Non-after Treatment Devices: Engine Design Modification

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

Appendix G. CPCN Exemption Approval

COMMISSIONERS

STATE OF MARYLAND

FREDERICK H. HOOVER, JR.
CHAIR

MICHAEL T. RICHARD
KUMAR P. BARVE
BONNIE A. SUCHMAN



PUBLIC SERVICE COMMISSION

#4, 9/4/24 AM; ML#s 309882 and 311910, IR-7189

September 5, 2024

Susan Corry
University of Maryland College Park
7901 Regents Drive
2119 Thomas V. Miller Jr. Administration Bldg.
College Park, MD 20742-5035
scorry@umd.edu

Dear Ms. Corry:

The Commission has reviewed the request for a Certificate of Public Convenience and Necessity Exemption filed on May 24, 2024 by University of Maryland College Park to construct a natural gas and oil-fired electric generator. Additional information was filed on August 26, 2024.

After considering this matter at the September 4, 2024 Administrative Meeting, the Commission approved the application.

By Direction of the Commission,

/s/ Andrew S. Johnston

Andrew S. Johnston
Executive Secretary

ASJ/st

WILLIAM DONALD SCHAEFER TOWER • 6 ST. PAUL STREET • BALTIMORE, MARYLAND 21202-6806

410-767-8000

Toll Free: 1-800-492-0474

FAX: 410-333-6495

MDRS: 1-800-735-2258 (TTY/Voice)


Website: www.psc.state.md.us

Appendix H. Workman's Compensation Insurance

[The contents of this appendix have been redacted or removed due to confidential and proprietary vendor specific information.]



**CONFIRMATION AND CERTIFICATE OF WORKERS' COMPENSATION
COVERAGE FOR THE STATE OF MARYLAND**

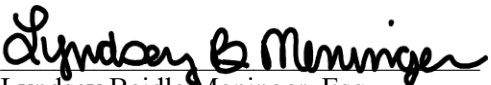
STATE OF MARYLAND AGENCY: University of Maryland College Park 1000 Hilltop Circle College Park, MD 20742		CERTIFICATE HOLDER: Maryland Department of the Environment 1800 Washington Blvd., Suite 720 Baltimore, MD 21230
AGENCY NUMBER: 	CONFIRMATION PERIOD: 12/5/2024 to 12/5/2025	DATE ISSUED: 12/5/2024

This is to certify that the State Agency named above is provided workers' compensation coverage through the State of Maryland. The Injured Workers Insurance Fund (hereinafter, "IWIF") is the administrator of benefits for the State of Maryland's Self-Insured Workers' Compensation Program for State Employees in accordance with Maryland Annotated Code, Labor and Employment, §§ 10-102 - 10-108.

This document certifies that pursuant to the terms of the Claims Administration Services Agreement between the State of Maryland and IWIF, IWIF renders payment of workers' compensation benefits, as required by Title 9 of the Labor and Employment Article of the Maryland Annotated Code, to the employees of the State of Maryland.

This notification is issued as a matter of information only and confers no rights upon the Certificate Holder. Further, it does not amend, extend, or alter the terms of the Claims Administration Services Agreement between IWIF and the State of Maryland.

Should IWIF cease its claims administration services for the State of Maryland, we will endeavor to mail 30 days written notice to Certificate Holder. Failure to do so shall impose no obligation or liability of any kind upon the Injured Workers Insurance Fund, or its representatives.


Lyndsey Beidle Meninger, Esq.
President, Injured Workers Insurance Fund

Appendix I. Public Outreach

BEFORE THE PUBLIC SERVICE COMMISSION OF THE
STATE OF MARYLAND

IN THE MATTER OF THE APPLICATION)	
OF THE UNIVERSITY OF MARYLAND,)	
COLLEGE PARK FOR AN EXEMPTION FROM)	Case No. _____
THE REQUIREMENT TO OBTAIN)	
A CERTIFICATE OF PUBLIC CONVENIENCE)	
AND NECESSITY)	

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this 16 day of May, 2024, notification of the application in this proceeding was given by depositing the notification letter (Attachment A), addressed to each person listed in Attachment B with an overnight delivery service, delivery fee prepaid thereon.

Dannielle Glaros
Dannielle Glaros (May 16, 2024 15:04 EDT)
Dannielle Glaros
Assistant Vice President and Chief of Staff
Division of Administration
dglaros@umd.edu
301-405-8486

ATTACHMENT A

NOTIFICATION LETTER



DIVISION OF ADMINISTRATION

OFFICE OF THE VICE PRESIDENT & CHIEF ADMINISTRATIVE OFFICER

2119 Thomas V. Miller Jr. Administrative Building
College Park, Maryland 20742-5035
(301) 405-1105 TEL
www.adminvp.umd.edu

May 16, 2024

County Executive Angela D. Alsobrooks
Prince George's County
Wayne K. Curry Administration Building
1301 McCormick Drive
Suite 4000
Largo, MD 20774

Dear County Executive Alsobrooks:

The University of Maryland College Park is pleased to announce that the Board of Public Works recently approved our NextGen Energy Program. This program is a long-term initiative for modernizing our campus energy systems to secure high-quality, reliable, efficient, resilient, affordable, and sustainable campus energy services.

As Comptroller Lierman stated at the Board meeting, "The project will decrease energy disruptions, decrease wasted energy, and reduce greenhouse and gas emissions to meet the University sustainability goal to be carbon neutral by 2025 and fossil free by 2035." As part of the process for moving forward, please be advised that the University is requesting the Maryland Public Service Commission to grant an exemption from the Certificate of Public Convenience and Necessity ("CPCN") process for a project to renovate University's Central Heat and Power facility ("CHP") and reduce the CHP's electric generation capacity from 27 MW to 16.5 MW. This project is a major component of the NextGen Energy Program.

The University estimates that the CHP's capital improvements, combined with improvements to its condensate return system, will reduce the facility's carbon emissions by 23% and annual water consumption by 50% (38 million gallons). This is on top of the 54% reduction in greenhouse gas emissions already achieved (from 2005 to 2021) at the University despite significant campus growth. The improvements will also provide the University the flexibility to realize greater decreases in carbon emissions and deploy innovative technologies. Additionally, under the Inflation Reduction Act of 2022, the federal government will reimburse the University at least \$69 million of the CHP's eligible construction costs, if construction begins by the end of this calendar year.

The MPSC granted the University a CPCN for the existing CHP in 2000. Since then, the law has changed to allow energy generating facilities like University's to be exempted from

the CPCN process because of its small generating capacity and on-site consumption. Obtaining this exemption will allow the University to apply for an air emissions permit for the renovated CHP from the Maryland Department of the Environment.

If you have any questions about the project to renovate the University's Central Heat and Power facility or wish to receive a copy of its application for exemption, please contact Dannielle Glaros, Assistant Vice President and Chief of Staff, Division of Administration, dglaros@umd.edu, 301-405-8486.

Very truly yours,

A handwritten signature in blue ink, reading "Carlo Colella". The signature is fluid and cursive, with the first name "Carlo" being more prominent than the last name "Colella".

Carlo Colella
Vice President and Chief Administrative Officer

Cc: Darryll J. Pines, President, University of Maryland

ATTACHMENT B

LIST OF PERSONS NOTIFIED

ATTACHMENT B

First Name	Last Name	Title	District	Address 1	Address 2	Address 3	City	State/Zip
Angela D.	Alsobrooks	County Executive	Prince George's County	Wayne K. Curry Administration Building	1301 McCormick Drive	Suite 4000	Largo	MD 20774
Donna J.	Brown	Council Clerk	Prince George's County	Wayne K. Curry Administration Building	1301 McCormick Drive	2nd Floor	Largo	MD 20774
S.M. Faziul	Kabir	Mayor	City of College Park	7401 Baltimore Avenue	Suite 201		College Park	MD 20740
Janeen	Miller	City Clerk	City of College Park	7401 Baltimore Avenue	Suite 201		College Park	MD 20740
Robert S.	Croslin	Mayor	City of Hyattsville	4310 Gallatin Street			Hyattsville	MD 20781
Laura	Reams	City Clerk	City of Hyattsville	4301 Gallatin Street			Hyattsville	MD 20781
Alan K.	Thompson	Mayor	Town of Riverdale Park	5800 Queensbury Road			Riverdale Park	MD 20737
Jessica	Barnes	Director/Town Clerk	Town of Riverdale Park	5800 Queensbury Road			Riverdale Park	MD 20737
Joel	Biermann	Mayor	Town of University Park	6724 Baltimore Ave.			University Park	MD 20782
TC	Hegeman	Town Clerk	Town of University Park	6724 Baltimore Ave.			University Park	MD 20782
Jodie	Kulpa-Eddy	Mayor	Town of Berwyn Heights	5700 Berwyn Road			Berwyn Heights	MD 20740
Melanie	Friesen	Town Clerk	Town of Berwyn Heights	5700 Berwyn Road			Berwyn Heights	MD 20740
Jim	Rosapepe	Senator	21st Legislative District	James Senate Office Bldg.	11 Bladen St.	Room 101	Annapolis	MD 21401
Ben	Barnes	Delegate	21st Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 121	Annapolis	MD 21401
Mary	Lehman	Delegate	21st Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 163	Annapolis	MD 21401
Joseline	Pena-Melnyk	Delegate	21st Legislative District	Taylor House Office Bldg.	6 Bladen St.	Room 241	Annapolis	MD 21401
Alonzo T.	Washington	Senator	22nd Legislative District	James Senate Office Bldg.	11 Bladen St.	Room 314	Annapolis	MD 21401
Anne M.	Healey	Delegate	22nd Legislative District	Taylor House Office Bldg.	6 Bladen St.	Room 361	Annapolis	MD 21401
Nicole	Williams, Esq.	Delegate	22nd Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 207	Annapolis	MD 21401
Ashanti F.	Martinez	Delegate	22nd Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 216	Annapolis	MD 21401
Ronald L.	Watson	Senator	23rd Legislative District	James Senate Office Bldg.	11 Bladen St.	Room 121	Annapolis	MD 21401
Adrian	Boafo	Delegate	23rd Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 225	Annapolis	MD 21401
Marvin E.	Holmes, Jr.	Delegate	23rd Legislative District	Taylor House Office Bldg.	6 Bladen St.	Room 364	Annapolis	MD 21401
Kim	Taylor	Delegate	23rd Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 203	Annapolis	MD 21401
Joanne C.	Benson	Senator	24th Legislative District	James Senate Office Bldg.	11 Bladen St.	Room 201	Annapolis	MD 21401
Tiffany T.	Alston	Delegate	24th Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 219	Annapolis	MD 21401
Andrea	Fletcher Harrison	Delegate	24th Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 207	Annapolis	MD 21401
Jazz M.	Lewis	Delegate	24th Legislative District	Taylor House Office Bldg.	6 Bladen St.	Room 151	Annapolis	MD 21401
Nick	Charles	Senator	25th Legislative District	James Senate Office Bldg.	11 Bladen St.	Room 202	Annapolis	MD 21401
Kent	Roberson	Delegate	25th Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 219	Annapolis	MD 21401
Denise	Roberts	Delegate	25th Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 204	Annapolis	MD 21401
Karen R.	Toles	Delegate	25th Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 203	Annapolis	MD 21401
C. Anthony	Muse	Senator	26th Legislative District	James Senate Office Bldg.	11 Bladen St.	Room 220	Annapolis	MD 21401
Veronica L.	Turner	Delegate	26th Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 205	Annapolis	MD 21401
Kriselda	Valderrama	Delegate	26th Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 362	Annapolis	MD 21401
Jamila J.	Woods	Delegate	26th Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 206	Annapolis	MD 21401
Michael A.	Jackson	Senator	27th Legislative District	Miller Senate Office Bldg.	11 Bladen St.	3 West Wing	Annapolis	MD 21401
Kevin M.	Harris	Delegate	27th Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 225	Annapolis	MD 21401
Jeffrie E.	Long	Delegate	27th Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 209	Annapolis	MD 21401
Malcolm L.	Augustine	Senator	47th Legislative District	Miller Senate Office Bldg.	11 Bladen St.	Room 214	Annapolis	MD 21401
Diana M.	Fennell	Delegate	47th Legislative District	Taylor House Office Bldg.	6 Bladen St.	Room 410	Annapolis	MD 21401
R. Julian	Ivey	Delegate	47th Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 205	Annapolis	MD 21401
Deni L.	Taveras	Delegate	47th Legislative District	Lowe House Office Bldg.	6 Bladen St.	Room 206	Annapolis	MD 21401

Appendix J. Historical Emissions of Retiring Units



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

April 13, 2020

Ms. Susan Nash
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Ms. Zelma Maldinado
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Ms. Nash & Ms. Maldinado:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of January 1, 2020 through March 31, 2020.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Phil Riggs, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

University of Maryland- Combined Heating and Power Plant Facility January 2020

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage scf/12-months gal/12-months mmbtu/12-months				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	0.00	0.00	0.00	0.00		452,849,000	0	473,657	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Turbine 2	21.50	0.00	2060.52	0.00		229,730,000	0	240,286	0	0.0021	0.0000	0.0021	0.1329	0.0000	0.1329	0.0144	0.0000	0.0144	0.0062	0.0000	0.0062	0.0037	0.0000	0.0037	0.0037	0.0000	0.0037
Duct Burner 1	0.00		0.00			96,644,000		101,085		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000		0.0000		0.0000
Duct Burner 2	0.00		0.00			39,430,000		41,242		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000		0.0000		0.0000
Boiler 2	744.00	0.00	72701.89	0.00						0.0086	0.0000	0.0086	3.6950	0.0000	3.6950	0.0201	0.0000	0.0201	0.0214	0.0000	0.0214	0.3264	0.0000	0.3264	0.3264	0.0000	0.3264
Boiler 4	743.70	0.00	67610.21	0.00						0.0144	0.0000	0.0144	3.4639	0.0000	3.4639	0.0731	0.0000	0.0731	0.0199	0.0000	0.0199	0.2037	0.0000	0.2037	0.2037	0.0000	0.2037
Emerg. Gen.		0.00		0.00	0.0						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000
Temporary Boile	32.15		2.92							0.0061			0.0550			0.0573			0.0009			0.0162			0.0162		
Emissions Total										0.0312	0.0000	0.0251	7.3468	0.0000	7.2918	0.1649	0.0000	0.1076	0.0484	0.0000	0.0474	0.5500	0.0000	0.5338	0.5500	0.0000	0.5338

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.04	89.16	4.10	2.51	5.29	5.29
		OK	OK	OK	OK	OK	OK

University of Maryland- Combined Heating and Power Plant Facility February 2020

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	0.00	0.00	0.00	0.00		411,709,000	0	430,627	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Turbine 2	604.90	0.00	79092.65	0.00		255,808,000	0	267,562	0	0.0791	0.0000	0.0791	5.1015	0.0000	5.1015	0.5536	0.0000	0.5536	0.2373	0.0000	0.2373	0.1424	0.0000	0.1424	0.1424	0.0000	0.1424
Duct Burner 1	0.00		0.00			88,934,000		93,021		0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000		0.0000		0.0000		0.0000	
Duct Burner 2	476.10		30290.71			52,230,000		54,630		0.0817		0.0817	0.1969		0.1969	0.1515		0.1515	0.0089		0.0089	0.0297		0.0297	0.0297		0.0297
Boiler 2	641.30	0.00	46916.09	0.00						0.0056	0.0000	0.0056	2.3845	0.0000	2.3845	0.0130	0.0000	0.0130	0.0138	0.0000	0.0138	0.2106	0.0000	0.2106	0.2106	0.0000	0.2106
Boiler 4	189.20	0.00	1213.30	0.00						0.0003	0.0000	0.0003	0.0622	0.0000	0.0622	0.0013	0.0000	0.0013	0.0004	0.0000	0.0004	0.0037	0.0000	0.0037	0.0037	0.0000	0.0037
Emerg. Gen.		3.50		27.17	3.5						0.0012	0.0012		0.0435	0.0435		0.0115	0.0115		0.0000	0.0000		0.0008	0.0008		0.0009	0.0009
Temporary Boiler	95.00		8.63							0.0181			0.1625			0.1692			0.0027			0.0478			0.0478		
Emissions Total										0.1846	0.0012	0.1678	7.9074	0.0435	7.7885	0.8886	0.0115	0.7309	0.2631	0.0000	0.2604	0.4342	0.0008	0.3872	0.4342	0.0009	0.3873

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.07	87.58	4.37	2.46	5.24	5.24
		OK	OK	OK	OK	OK	OK

University of Maryland- Combined Heating and Power Plant Facility March 2020

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	0.00	0.00	0.00	0.00		330,649,000	0	345,842	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Turbine 2	741.90	0.00	89470.56	0.00		277,778,000	0	290,542	0	0.0895	0.0000	0.0895	5.7709	0.0000	5.7709	0.6263	0.0000	0.6263	0.2684	0.0000	0.2684	0.1610	0.0000	0.1610	0.1610	0.0000	0.1610
Duct Burner 1	0.00		0.00			69,564,000		72,760		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Duct Burner 2	736.30		46283.29			85,580,000		89,512		0.1248		0.1248	0.3008		0.3008	0.2314		0.2314	0.0136		0.0136	0.0454		0.0454	0.0454		0.0454
Boiler 2	318.90	0.00	131.79	0.00						0.0000	0.0000	0.0000	0.0067	0.0000	0.0067	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006	0.0000	0.0006	0.0006	0.0000	0.0006
Boiler 4	161.40	0.00	425.70	0.00						0.0001	0.0000	0.0001	0.0218	0.0000	0.0218	0.0005	0.0000	0.0005	0.0001	0.0000	0.0001	0.0013	0.0000	0.0013	0.0013	0.0000	0.0013
Emerg. Gen.		0.00		0.00	3.5						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Temporary Boiler	550.00		49.95							0.1045			0.9405			0.9797			0.0157			0.2766			0.2766		
Emissions Total										0.3189	0.0000	0.2144	7.0407	0.0000	6.1002	1.8379	0.0000	0.8582	0.2979	0.0000	0.2822	0.4850	0.0000	0.2083	0.4850	0.0000	0.2083

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.19	82.99	5.35	2.24	5.15	5.15
		OK	OK	OK	OK	OK	OK

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

Date:	BLR 2	BLR 4	TEMP BOILER BLR 2	BLR 4
Start Test	1832 1832	1833/1817	0235	
Recorded Test	1845	1832	0253	
O2	3.7%	4.6%	5.2%	
CO	3ppm	0ppm	38ppm	
Eff	83.8%	78.8%	99.7%	
CO2	9.7%	9.2%	8.9%	
T-Stk	356°F	514°F	62°F	
T-Air	87.3°F	77°F	49.4%	
EA	18.9%	25.1%	29.5%	
CO (15)	1ppm	0ppm	14ppm	
NO	56ppm	78ppm	26ppm	
NO2	2ppm	2ppm	2ppm	
NOX	59ppm	79ppm	28ppm	
SO2	***	***	***	
NO (15)	19ppm	28ppm	10ppm	
NOX (15)	20ppm	29ppm	10ppm	
SO2 (15)	***	***	***	
K lbs/hour	74KPPH	63KPPH	45KPPH	

Signature: 



BACHARACH, INC.
PCA 3
SN: TP1008

Time: 02:53:55 AM
Date: 01/07/20

Fuel
NGAS

O ₂	5.2 %
CO	38 ppm
Eff	99.7 %
CO ₂	8.9 %
T-Stk	62 °F
T-Air	49.4 °F
EA	29.5 %
CO(15)	14 ppm
NO	28 ppm
NO ₂	2 ppm
NO _x	28 ppm
SO ₂	*** ppm
NO(15)	10 ppm
NO ₂ (15)	1 ppm
NO _x (15)	10 ppm
SO ₂ (15)	*** ppm

Comments:

Temp
Boiler



BACHARACH, INC.
PCA 3
SN: TP1008

Time: 06:32:19 PM
Date: 01/06/20

#4
Boiler Fuel
NGAS

O ₂	4.6 %
CO	0 ppm
Eff	78.8 %
CO ₂	9.2 %
T-Stk	514 °F
T-Air	77.5 °F
EA	25.1 %
CO(15)	0 ppm
NO	78 ppm
NO ₂	2 ppm
NO _x	79 ppm
SO ₂	*** ppm
NO(15)	28 ppm
NO ₂ (15)	1 ppm
NO _x (15)	29 ppm
SO ₂ (15)	*** ppm

Comments:



BACHARACH, INC.
PCA 3
SN: TP1008

Time: 06:45:24 PM
Date: 01/06/20

#2
Boiler Fuel
NGAS

O ₂	3.7 %
CO	3 ppm
Eff	83.8 %
CO ₂	9.7 %
T-Stk	356 °F
T-Air	87.3 °F
EA	18.9 %
CO(15)	1 ppm
NO	58 ppm
NO ₂	2 ppm
NO _x	59 ppm
SO ₂	*** ppm
NO(15)	19 ppm
NO ₂ (15)	1 ppm
NO _x (15)	20 ppm
SO ₂ (15)	*** ppm

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1636	1617		
Recorded Test	1652	1635		
O2	4.5%	4.2%		
CO	4ppm	1ppm		
Eff	82.9%	79.8%		
CO2	9.2%	9.4%		
T-Stk	388°F	507°F		
T-Air	100.7°F	99.6°F		
EA	24.8%	22.3%		
CO (15)	2ppm	0ppm		
NO	56ppm	77ppm		
NO2	3ppm	0ppm		
NOX	59ppm	77ppm		
SO2	***	***		
NO (15)	20ppm	27ppm		
NOX (15)	21ppm	27ppm		
SO2 (15)	***	***		
K lbs/hour	56KPPH	58KPPH		

Signature: _____

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1008

Time: 04:35:39 PM
Date: 01/13/20

#4
Boiler Fuel
NGAS

O ₂	4.2 %
CO	1 ppm
Eff	79.8 %
CO ₂	9.4 %
T-Stk	507 °F
T-Air	99.6 °F
EA	22.3 %
CO (15)	0 ppm
NO	77 ppm
NO ₂	0 ppm
NO _x	77 ppm
SO ₂	*** ppm
NO (15)	27 ppm
NO ₂ (15)	0 ppm
NO _x (15)	27 ppm
SO ₂ (15)	*** ppm

Comments: 58KPPH

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1008

Time: 04:52:27 PM
Date: 01/13/20

#2
Boiler Fuel
NGAS

O ₂	4.5 %
CO	4 ppm
Eff	82.9 %
CO ₂	9.2 %
T-Stk	388 °F
T-Air	100.7 °F
EA	24.8 %
CO (15)	2 ppm
NO	58 ppm
NO ₂	3 ppm
NO _x	59 ppm
SO ₂	*** ppm
NO (15)	20 ppm
NO ₂ (15)	1 ppm
NO _x (15)	21 ppm
SO ₂ (15)	*** ppm

Comments:

56KPPH

EMISSION TEST COLLEGE PARK ENERGY

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature:

Date:	BLR 2	BLR 4	TEMP BOILER BLR 2	BLR 4
Start Test	1254	1235	1320	
Recorded Test	1311	1252	1337	
O2	3.5%	14.7%	12.0%	
CO	5 ppm	1 ppm	14 ppm	
Eff	82.5%	61.5%	99.7%	
CO2	9.8%	3.5%	5.0%	
T-Stk	405°F	553°F	490°F	
T-Air	85.2°F	88.5°F	60.4°F	
EA	17.7%	212.8%	121.1%	
CO (15)	2 ppm	1 ppm	10 ppm	
NO	63 ppm	32 ppm	13 ppm	
NO2	2 ppm	0 ppm	2 ppm	
NOX	65 ppm	32 ppm	15 ppm	
SO2	***	***	***	
NO (15)	21 ppm	31 ppm	8 ppm	
NOX (15)	22 ppm	31 ppm	10 ppm	
SO2 (15)	***	***	***	
K " /hour	73 KPPH	69 KPPH	41 KPPH	

Signature:



BACHARACH, INC.

PCA 3

SN: TP1006

Time: 01:37:24 PM

Date: 01/20/20

Fuel
NGAS

TEMP
Boiler

O₂: 12.0 %
CO: 14 ppm
Eff: 99.7 %
CO₂: 5.0 %
T-Stk: 49 °F
T-Air: 60.4 °F
EA: 121.1 %
CO (15): 10 ppm
NO: 13 ppm
NO₂: 2 ppm
NOx: 15 ppm
SO₂: 8 ppm
NO (15): 1 ppm
NO₂ (15): 1 ppm
NOx (15): 10 ppm
SO₂ (15): 10 ppm

Comments:

41KPPH



BACHARACH, INC.

PCA 3

SN: TP1006

Time: 12:52:49 PM

Date: 01/20/20

Fuel
NGAS

#4
Boiler

O₂: 14.7 %
CO: 1 ppm
Eff: 61.5 %
CO₂: 3.5 %
T-Stk: 553 °F
T-Air: 88.5 °F
EA: 212.8 %
CO (15): 1 ppm
NO: 32 ppm
NO₂: 0 ppm
NOx: 32 ppm
SO₂: 31 ppm
NO (15): 0 ppm
NO₂ (15): 31 ppm
NOx (15): 31 ppm
SO₂ (15): 31 ppm

Comments:

69KPPH



BACHARACH, INC.

PCA 3

SN: TP1006

Time: 01:11:32 PM

Date: 01/20/20

Fuel
NGAS

#2
Boiler

O₂: 3.5 %
CO: 5 ppm
Eff: 82.5 %
CO₂: 9.8 %
T-Stk: 405 °F
T-Air: 85.2 °F
EA: 17.7 %
CO (15): 2 ppm
NO: 63 ppm
NO₂: 2 ppm
NOx: 65 ppm
SO₂: 21 ppm
NO (15): 1 ppm
NO₂ (15): 1 ppm
NOx (15): 22 ppm
SO₂ (15): 22 ppm

Comments:

73KPPH

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	TEMP BLR 2	BLR 4
Start Test	0857	0952	1013	
Recorded Test	0948	1007	1028	
O2	3.4 %	4.2 %	7.1 %	
CO	9 ppm	3 ppm	4 ppm	
Eff	83.2 %	77.6 %	100.0 %	
CO2	9.9 %	9.4 %	7.8 %	
T-Stk	375 °F	586 °F	62 °F	
T-Air	81.6 °F	98.4 °F	72.2 °F	
EA	17.2 %	22.7 %	46.1 %	
CO (15)	3 ppm	1 ppm	2 ppm	
NO	60 ppm	81 ppm	28 ppm	
NO2	0 ppm	0 ppm	0 ppm	
NOX	60 ppm	81 ppm	28 ppm	
SO2	*** ppm	*** ppm	*** ppm	
NO (15)	20 ppm	29 ppm	12 ppm	
NOX (15)	20 ppm	29 ppm	12 ppm	
SO2 (15)	*** ppm	*** ppm	***	
K lbs/hour	65	62	24	

Signature: _____

Kenneth Sullivan

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:28:44 AM
Date: 01/27/20

Fuel
NGAS

O ₂	7.1 %
CO	4 ppm
Eff	100.0 %
CO ₂	7.8 %
T-Stk	62 °F
T-Air	72.2 °F
EA	48.1 %
CO(15)	2 ppm
NO	28 ppm
NO ₂	0 ppm
NO _x	28 ppm
SO ₂	*** ppm
NO(15)	12 ppm
NO ₂ (15)	0 ppm
NO _x (15)	12 ppm
SO ₂ (15)	*** ppm

Comments:

TEMP 24

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:07:26 AM
Date: 01/27/20

Fuel
NGAS

O ₂	4.2 %
CO	3 ppm
Eff	77.8 %
CO ₂	9.4 %
T-Stk	586 °F
T-Air	98.4 °F
EA	22.7 %
CO(15)	1 ppm
NO	81 ppm
NO ₂	0 ppm
NO _x	81 ppm
SO ₂	*** ppm
NO(15)	29 ppm
NO ₂ (15)	0 ppm
NO _x (15)	29 ppm
SO ₂ (15)	*** ppm

Comments:

BLR #4
K/lbs-62

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 09:48:50 AM
Date: 01/27/20

Fuel
NGAS

O ₂	3.4 %
CO	9 ppm
Eff	83.2 %
CO ₂	9.9 %
T-Stk	375 °F
T-Air	81.6 °F
EA	17.2 %
CO(15)	3 ppm
NO	60 ppm
NO ₂	0 ppm
NO _x	60 ppm
SO ₂	*** ppm
NO(15)	20 ppm
NO ₂ (15)	0 ppm
NO _x (15)	20 ppm
SO ₂ (15)	*** ppm

Comments:

BLR #2
K/lbs-65

EMISSION TEST COLLEGE PARK ENERGY

Date: 02/03/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				1534
Recorded Test				1539
O2				15.9%
CO				2 ppm
Eff				70.9%
CO2				2.8%
T-Stk				352°F
T-Air				910°F
EA				250.0%
CO (15)				2 ppm
NO				17 ppm
NO2				1 ppm
NOX				18 ppm
SO2				1 ppm
NO (15)				20 ppm
NOX (15)				22 ppm
SO2 (15)				1 ppm
Mega Watts				931
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	9330	9307		
Recorded Test	1348	2323		
O2	3.9%	7.0%		
CO	0 ppm	0 ppm		
Eff	81.8%	81.1%		
CO2	9.6%	7.9%		
T-Stk	337°F	408°F		
T-Air	1089°F	1047°F		
EA	20.1%	44.5%		
CO (15)	0 ppm	0 ppm		
NO	54 ppm	57 ppm		
NO2	0 ppm	0 ppm		
NOX	54 ppm	57 ppm		
SO2	1 ppm	1 ppm		
NO (15)	19 ppm	24 ppm		
NOX (15)	19 ppm	24 ppm		
SO2 (15)	1 ppm	1 ppm		
K lbs/hour	98	18		

Signature: _____

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:23:24 PM
Date: 02/03/20

Fuel
NGAS

O ₂	7.0 %
CO	0 ppm
Eff	81.4 %
CO ₂	7.9 %
T-Stk	408 °F
T-Air	104.7 °F
EA	44.5 %
CO(15)	0 ppm
NO	57 ppm
NO ₂	0 ppm
NO _x	57 ppm
SO ₂	*** ppm
NO(15)	24 ppm
NO ₂ (15)	0 ppm
NO _x (15)	24 ppm
SO ₂ (15)	*** ppm

Comments:

Steam flow-18k
#4 BLR

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:48:07 PM
Date: 02/03/20

Fuel
NGAS

O ₂	3.9 %
CO	0 ppm
Eff	84.8 %
CO ₂	9.6 %
T-Stk	337 °F
T-Air	108.9 °F
EA	20.1 %
CO(15)	0 ppm
NO	54 ppm
NO ₂	0 ppm
NO _x	54 ppm
SO ₂	*** ppm
NO(15)	19 ppm
NO ₂ (15)	0 ppm
NO _x (15)	19 ppm
SO ₂ (15)	*** ppm

Comments:

STM Flow 48k
#2 BLR

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 03:59:00 PM
Date: 02/03/20

Fuel
NGAS

O ₂	15.9 %
CO	2 ppm
Eff	70.9 %
CO ₂	2.8 %
T-Stk	352 °F
T-Air	91.1 °F
EA	250.0 %
CO(15)	2 ppm
NO	17 ppm
NO ₂	1 ppm
NO _x	18 ppm
SO ₂	*** ppm
NO(15)	20 ppm
NO ₂ (15)	1 ppm
NO _x (15)	22 ppm
SO ₂ (15)	*** ppm

Comments:

GT2
MW = 9.31
O.A.T. = 64°F

EMISSION TEST COLLEGE PARK ENERGY

Date: 2/10/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1340		
Recorded Test		1347		
O2		14.6 %		
CO		4 ppm		
Eff		81.5 %		
CO2		3.5 %		
T-Stk		218 °F		
T-Air		67.3 °F		
EA		207.4 %		
CO (15)		4 ppm		
NO		20 ppm		
NO2		4 ppm		
NOX		24 ppm		
SO2		xxx ppm		
NO (15)		19 ppm		
NOX (15)		23 ppm		
SO2 (15)		xxx		
Mega Watts		10.1		
KSCF/hour		50		

Signature: _____

Date: 2/10/20	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1355			
Recorded Test	1412			
O2	9.3 %			
CO	1 ppm			
Eff	81.2 %			
CO2	6.6 %			
T-Stk	339 °F			
T-Air	71.8 °F			
EA	20.9 %			
CO (15)	0 ppm			
NO	34 ppm			
NO2	3 ppm			
NOX	37 ppm			
SO2	xxx			
NO (15)	17 ppm			
NOX (15)	19 ppm			
SO2 (15)	xxx			
K lbs/hour	1138 ACFM			

Signature: _____

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

#2
Borer

ACFM
BACHARACH 1138

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:12:21 PM
Date: 02/10/20

Fuel
NGAS

O ₂	9.3 %
CO	1 ppm
Eff	81.2 %
CO ₂	6.6 %
T-Stk	330 °F
T-Air	71.8 °F
EA	70.9 %
CO (15)	0 ppm
NO	34 ppm
NO ₂	3 ppm
NO _x	37 ppm
SO ₂	*** ppm
NO (15)	17 ppm
NO ₂ (15)	1 ppm
NO _x (15)	19 ppm
SO ₂ (15)	*** ppm

Comments:

..... 10.1
..... 10.1
..... 10.1

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

10.1
KSCF15
60

Time: 01:47:44 PM
Date: 02/10/20

Fuel
NGAS

O ₂	14.6 %
CO	4 ppm
Eff	81.5 %
CO ₂	3.5 %
T-Stk	218 °F
T-Air	67.3 °F
EA	207.4 %
CO (15)	4 ppm
NO	20 ppm
NO ₂	4 ppm
NO _x	24 ppm
SO ₂	*** ppm
NO (15)	19 ppm
NO ₂ (15)	4 ppm
NO _x (15)	23 ppm
SO ₂ (15)	*** ppm

Comments:

EMISSION TEST COLLEGE PA

Date: 2/17/2020	GT 1 DB	GT 2 DB
Start Test	N/A	1038
Recorded Test		1043
O2		13.7 %
CO		9 ppm
Eff		79.9 %
CO2		4.1 %
T-Stk		266 °F
T-Air		68.7 °F
EA		170.2 %
CO (15)		8 ppm
NO		25 ppm
NO2		6 ppm
NOX		31 ppm
SO2		*** ppm
NO (15)		21 ppm
NOX (15)		26 ppm
SO2 (15)		*** ppm
Mega Watts		9.8
KSCF/hour		70

Signature:

Date: 2/17/2020	BLR 2	BLR 4	BL
Start Test	1040		
Recorded Test	1055	N/A	N
O2	8.7 %		
CO	0 ppm		
Eff	81.6 %		
CO2	6.9 %		
T-Stk	335 °F		
T-Air	71.7 °F		
EA	63.9 %		
CO (15)	0 ppm		
NO	47 ppm		
NO2	2 ppm		
NOX	48 ppm		
SO2	*** ppm		
NO (15)	23 ppm		
NOX (15)	23 ppm		
SO2 (15)	*** ppm		
K lbs/hour	41		

Signature:

GT #2 DB

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:43:55 AM
Date: 02/17/20

Fuel
NGAS

O2	13.7 %
CO	9 ppm
Eff	79.9 %
CO2	4.1 %
T-Stk	266 °F
T-Air	68.7 °F
EA	170.2 %
CO (15)	8 ppm
NO	25 ppm
NO2	6 ppm
NOx	31 ppm
SO2	*** ppm
NO (15)	21 ppm
NO2 (15)	5 ppm
NOx (15)	26 ppm
SO2 (15)	*** ppm

Comments:

MW = 9.8
KSCF = 70

BLR2

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:55:00 AM
Date: 02/17/20

Fuel
NGAS

O2	8.7 %
CO	0 ppm
Eff	81.6 %
CO2	6.9 %
T-Stk	335 °F
T-Air	71.7 °F
EA	63.9 %
CO (15)	0 ppm
NO	47 ppm
NO2	2 ppm
NOx	48 ppm
SO2	*** ppm
NO (15)	23 ppm
NO2 (15)	1 ppm
NOx (15)	23 ppm
SO2 (15)	*** ppm

Comments:

KLBS = 41

D THEN PRINT TEST RESULTS

) THEN PRINT TEST RESULTS

IS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1135		
Recorded Test		1143		
O2		14.9%		
CO		4ppm		
Eff		77.4%		
CO2		3.4%		
T-Stk		274°F		
T-Air		67.2°F		
EA		221.5%		
CO (15)		4ppm		
NO		22ppm		
NO2		4ppm		
NOX		25ppm		
SO2		***		
NO (15)		21ppm		
NOX (15)		25ppm		
SO2 (15)		***		
Mega Watts		9.56 MW		
KSCF/hour		38		

Signature: _____

Date:	BLR 2	BLR 4
Start Test	1146	SEE
Recorded Test	1204	
O2	9.2%	
CO	0ppm	
Eff	82.0%	
CO2	6.6%	
T-Stk	330°F	
T-Air	84.3°F	
EA	69.9%	
CO (15)	0ppm	
NO	43ppm	
NO2	1ppm	
NOX	44ppm	
SO2	***	
NO (15)	22ppm	
NOX (15)	22ppm	
SO2 (15)	***	
K lbs/hour	37KPPH	

Signature: _____

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:43:37 AM
Date: 02/24/20

GT2
N/DB

Fuel
NGAS

O2	14.9 %
CO	4 ppm
Eff	77.4 %
CO2	3.4 %
T-Stk	274 °F
T-Air	67.2 °F
EA	221.5 %
CO(15)	4 ppm
NO	22 ppm
NO2	4 ppm
NOx	25 ppm
SO2	*** ppm
NO(15)	21 ppm
NO2 (15)	4 ppm
NOx (15)	25 ppm
SO2 (15)	*** ppm

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 12:04:37 PM
Date: 02/24/20

#2
BOILER

Fuel
NGAS

O2	9.2 %
CO	0 ppm
Eff	82.0 %
CO2	6.6 %
T-Stk	330 °F
T-Air	84.3 °F
EA	69.9 %
CO (15)	0 ppm
NO	43 ppm
NO2	1 ppm
NOx	44 ppm
SO2	*** ppm
NO (15)	22 ppm
NO2 (15)	0 ppm
NOx (15)	22 ppm
SO2 (15)	*** ppm

Comments:

9.56 MW
38 KSCFH

3N PRINT TEST RESULTS

4N PRINT TEST RESULTS

ET

Comments:

37KPPH

EMISSION TEST COLLEGE I

Date:	GT 1 DB	GT 2 DB
Start Test		1120
Recorded Test		1126
O2		12.7 %
CO		6 ppm
Eff		77.2 %
CO2		4.7 %
T-Stk		339 °F
T-Air		58.2 °F
EA		136.7 %
CO (15)		4 ppm
NO		29 ppm
NO2		4 ppm
NOX		34 ppm
SO2		***
NO (15)		21 ppm
NOX (15)		24 ppm
SO2 (15)		***
Mega Watts		9.44 MW
KSCF/hour		77 KSCFH

Signature: _____

Date:	BLR 2	BLR 4
Start Test	1130	
Recorded Test	1146	
O2	7.0 %	
CO	1 ppm	
Eff	84.5 %	
CO2	7.8 %	
T-Stk	281 °F	
T-Air	76.9 °F	
EA	45.2 %	
CO (15)	0 ppm	
NO	38 ppm	
NO2	0 ppm	
NOX	38 ppm	
SO2	***	
NO (15)	16 ppm	
NOX (15)	16 ppm	
SO2 (15)	***	
K lbs/hour	37 KPPH	

Signature: _____

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:46:05 AM
Date: 03/02/20

#2
Boiler

O2	7.0 %
CO	1 ppm
Eff	84.5 %
CO2	7.8 %
T-Stk	281 °F
T-Air	76.9 °F
EA	45.2 %
CO (15)	0 ppm
NO	38 ppm
NO2	0 ppm
NOx	38 ppm
SO2	*** ppm
NO (15)	16 ppm
NO2 (15)	0 ppm
NOx (15)	16 ppm
SO2 (15)	*** ppm

Comments:

37 KPPH

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:28:41 AM
Date: 03/02/20

#2
GT

O2	12.7 %
CO	6 ppm
Eff	77.2 %
CO2	4.7 %
T-Stk	339 °F
T-Air	58.2 °F
EA	136.7 %
CO (15)	4 ppm
NO	29 ppm
NO2	4 ppm
NOx	34 ppm
SO2	*** ppm
NO (15)	21 ppm
NO2 (15)	3 ppm
NOx (15)	24 ppm
SO2 (15)	*** ppm

Comments:

9.44 MW
77 KSCFH

N PRINT TEST RESULTS

IEN PRINT TEST RESULTS

SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 3/4/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1000		
Recorded Test		1004		
O2		13.3%		
CO		6 ppm		
Eff		80.1%		
CO2		4.3%		
T-Stk		273°F		
T-Air		68.3°F		
EA		156.3%		
CO (15)		15 ppm		
NO		25.8 ppm		
NO2		1.7 ppm		
NOX		27.5 ppm		
SO2				
NO (15)		61 ppm		
NOX (15)		65 ppm	21.35	
SO2 (15)				
Mega Watts		9.72		
KSCF/hour		68		

Signature: 

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 10:04:31 AM
Date: 03/09/20

Fuel
NGAS

O2:	13.3 %
CO	6 ppm
Eff	80.1 %
CO2	4.3 %
T-Stk	273 °F
T-Air	68.3 °F
EA	156.3 %
CO(3)	15 ppm
NO	25.8 ppm
NO2	1.7 ppm
NOx	27.5 ppm
NO(3)	61 ppm
NO2(3)	4 ppm
NOx(3)	65 ppm
Flow	0.52 LPM

Comments:

1 TO THIS SHEET

UTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

NOx computed
incorrectly @ 3 vice 18
NOx(15) = 21.35

27.5(5.9) / 7.6 = 21.35



EMISSION TEST COLLEGE PARK ENERGY

Date: 3/13/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1043		
Recorded Test		1048		
O2		13.2		
CO		7		
Eff		80.9		
CO2		4.4		
T-Stk		262		
T-Air		68.6		
EA		152		
CO (15)		6		
NO		22		
NO2		5		
NOX		27		
SO2		* * *		
NO (15)		17		
NOX (15)		4		
SO2 (15)		21		
Mega Watts		9.6		
KSCF/hour		94		

Signature: _____

Philip R. [Signature]

Date:	BLR 2	BLR 4	BLR 2
Start Test			
Recorded Test			
O2			
CO			
Eff			
CO2			
T-Stk			
T-Air			
EA			
CO (15)			
NO			
NO2			
NOX			
SO2			
NO (15)			
NOX (15)			
SO2 (15)			
K lbs/hour			

Signature: _____



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 10:48:35 AM
Date: 03/13/20

Fuel
NGAS

O2	13.2 %
CO	7 ppm
Eff	80.9 %
CO2	4.4 %
T-STK	262 °F
T-AIR	68.6 °F
EA	152.0 %
CO (15)	6 ppm
NO	22 ppm
NO2	5 ppm
NOx	27 ppm
SO2	ppm
NO (15)	17 ppm
NO2 (15)	4 ppm
NOx (15)	21 ppm
SO2 (15)	ppm

Draft Reading
-0.06 inwc

Comments:

#2 GT w/ DD
9.6 MW

ILTS

TS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 03/16/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		0909		
Recorded Test		0915		
O2		12.6 %		
CO		10 ppm		
Eff		81.1 %		
CO2		4.7 %		
T-Stk		266 °F		
T-Air		64.2 °F		
EA		135.8 %		
CO (15)		7 ppm		
NO		26 ppm		
NO2		6 ppm		
NOX		32 ppm		
SO2		* * *		
NO (15)		19 ppm		
NOX (15)		23 ppm		
SO2 (15)		* * *		
Mega Watts		10.1 MW		
KSCF/hour		53 KSCFH		

Signature: _____

Date: 03/16/20	BLR 2	BLR 4
Start Test		0925
Recorded Test		0948
O2		9.2 %
CO		1 ppm
Eff		80.1 %
CO2		6.6 %
T-Stk		389 °F
T-Air		91.1 °F
EA		69.7 %
CO (15)		0 ppm
NO		67 ppm
NO2		1 ppm
NOX		68 ppm
SO2		* * *
NO (15)		34 ppm
NOX (15)		34 ppm
SO2 (15)		* * *
K lbs/hour		24 KPPH

Signature: _____



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 09:15:13 AM
Date: 03/16/20

GT#2

Fuel
NGAS



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 09:48:15 AM
Date: 03/18/20

Boiler #4

Fuel
NGAS

O2	9.2 %
CO	1 ppm
Eff	80.1 %
CO2	6.6 %
T-STK	389 °F
T-AIR	91.1 °F
EA	69.7 %
CO (15)	0 ppm
NO	67 ppm
NO2	1 ppm
NOx	68 ppm
SO2	* * *
NO (15)	34 ppm
NO2 (15)	0 ppm
NOx (15)	34 ppm
SO2 (15)	* * *

Draft Reading
-0.51 inwc

Comments:

24 KPPH

O2	12.8 %
CO	10 ppm
Eff	81.1 %
CO2	4.7 %
T-STK	266 °F
T-AIR	64.2 °F
EA	135.8 %
CO (15)	7 ppm
NO	26 ppm
NO2	6 ppm
NOx	32 ppm
SO2	* * *
NO (15)	19 ppm
NO2 (15)	4 ppm
NOx (15)	23 ppm
SO2 (15)	* * *

10.1 MW
53 KSCFH

Draft Reading
-0.11 inwc

Comments:

1 PRINT TEST RESULTS

2 PRINT TEST RESULTS

EMISSION TEST COLLEGE

Date: 03/23/2020	GT 1 DB	GT 2 DB
Start Test		1158
Recorded Test		1203
O2		12.970
CO		8 ppm
Eff		80.7 %
CO2		4.5 %
T-Stk		270 °F
T-Air		66.4 °F
EA		143.2 %
CO (15)		6 ppm
NO		26 ppm
NO2		4 ppm
NOX		30 ppm
SO2		*** ppm
NO (15)		19 ppm
NOX (15)		22 ppm
SO2 (15)		*** ppm
Mega Watts		10
KSCF/hour		67

Signature: Kenneth Will

Date: 03/23/2020	BLR 2	BLR 4
Start Test	1027	
Recorded Test	1042	
O2	4.7 %	
CO	1 ppm	
Eff	84.0 %	
CO2	9.1 %	
T-Stk	321 °F	
T-Air	72.5 °F	
EA	25.8 %	
CO (15)	0 ppm	
NO	57 ppm	
NO2	1 ppm	
NOX	58 ppm	
SO2	*** ppm	
NO (15)	21 ppm	
NOX (15)	21 ppm	
SO2 (15)	*** ppm	
K lbs/hour	25	

Signature: Kenneth Will

GT 2 DB

BACHARACH

BACHARACH, INC.
PCA 2
SN: RP1001

Time: 12:03:44 PM
Date: 03/23/20

Fuel
NGAS

O2: 12.9 %
CO: 8 ppm
Eff: 80.7 %
CO2: 4.5 %
T-STK: 270 °F
T-AIR: 66.4 °F
EA: 143.2 %
CO (15): 6 ppm
NO: 26 ppm
NO2: 4 ppm
NOx: 30 ppm
SO2: *** ppm
NO (15): 19 ppm
NO2 (15): 3 ppm
NOx (15): 22 ppm
SO2 (15): *** ppm

Draft Reading
-0.05 inwc

Comments:

MW - 10
KSCF/hr - 67

BLR 2

BACHARACH

BACHARACH, INC.
PCA 2
SN: RP1001

Time: 10:42:50 AM
Date: 03/23/20

Fuel
NGAS

O2: 4.7 %
CO: 1 ppm
Eff: 84.0 %
CO2: 9.1 %
T-STK: 321 °F
T-AIR: 72.5 °F
EA: 25.8 %
CO (15): 0 ppm
NO: 57 ppm
NO2: 1 ppm
NOx: 58 ppm
SO2: *** ppm
NO (15): 21 ppm
NO2 (15): 0 ppm
NOx (15): 21 ppm
SO2 (15): *** ppm

Draft Reading
-0.64 inwc

Comments:

Klbs/hr - 25

RINT TEST RESULTS

UNT TEST RESULTS



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

July 24, 2020

Ms. Susan Nash
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Ms. Zelma Maldonado
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Ms. Nash & Ms. Maldonado:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of April 1, 2020 through June 30, 2020.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Phil Riggs, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

University of Maryland- Combined Heating and Power Plant Facility April 2020

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage		Year-to-Date Operating Hours	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	0.00	0.00	0.00	0.00		244,659,000	0	255,901	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Turbine 2	718.50	0.00	89913.00	0.00		289,261,000	0	302,553	0	0.0899	0.0000	0.0899	5.7994	0.0000	5.7994	0.6294	0.0000	0.6294	0.2697	0.0000	0.2697	0.1618	0.0000	0.1618	0.1618	0.0000	0.1618
Duct Burner 1	0.00		0.00			61,794,000		64,633		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Duct Burner 2	713.80		41430.08			121,740,000		127,334		0.1117		0.1117	0.2693		0.2693	0.2072		0.2072	0.0122		0.0122	0.0407		0.0407	0.0407		0.0407
Boiler 2	82.00	0.00	511.47	0.00						0.0001	0.0000	0.0001	0.0260	0.0000	0.0260	0.0001	0.0000	0.0001	0.0002	0.0000	0.0002	0.0023	0.0000	0.0023	0.0023	0.0000	0.0023
Boiler 4	164.50	0.00	759.36	0.00						0.0002	0.0000	0.0002	0.0389	0.0000	0.0389	0.0008	0.0000	0.0008	0.0002	0.0000	0.0002	0.0023	0.0000	0.0023	0.0023	0.0000	0.0023
Emerg. Gen.		0.00		0.00	3.5						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000		0.0000	
Temporary Boile	57.20	0.00	5.20	0.00						0.0109	0.0000	0.0109	0.0978	0.0000	0.0978	0.1019	0.0000	0.1019	0.0016	0.0000	0.0016	0.0288	0.0000	0.0288	0.0288	0.0000	0.0288
Emissions Total										0.2127	0.0000	0.2127	6.2314	0.0000	6.2314	0.9394	0.0000	0.9394	0.2839	0.0000	0.2839	0.2359	0.0000	0.2359	0.2359	0.0000	0.2359

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.24	78.43	5.51	2.01	4.98	4.98
		OK	OK	OK	OK	OK	OK

University of Maryland- Combined Heating and Power Plant Facility May 2020

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	0.00	0.00	0.00	0.00		182,819,000	0	191,220	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Turbine 2	658.50	0.00	80599.86	0.00		326,150,000	0	341,137	0	0.0806	0.0000	0.0806	5.1987	0.0000	5.1987	0.5642	0.0000	0.5642	0.2418	0.0000	0.2418	0.1451	0.0000	0.1451	0.1451	0.0000	0.1451
Duct Burner 1	0.00		0.00			49,634,000		51,915		0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000		0.0000
Duct Burner 2	627.40		31191.27			142,641,000		149,195		0.0841		0.0841	0.2027		0.2027	0.1560		0.1560	0.0092		0.0092	0.0306		0.0306	0.0306		0.0306
Boiler 2	166.90	0.00	4691.09	0.00						0.0006	0.0000	0.0006	0.2384	0.0000	0.2384	0.0013	0.0000	0.0013	0.0014	0.0000	0.0014	0.0211	0.0000	0.0211	0.0211	0.0000	0.0211
Boiler 4	146.50	0.00	4065.61	0.00						0.0009	0.0000	0.0009	0.2083	0.0000	0.2083	0.0044	0.0000	0.0044	0.0012	0.0000	0.0012	0.0122	0.0000	0.0122	0.0122	0.0000	0.0122
Emerg. Gen.		0.00		0.00	3.5						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Temporary Boile	30.20	0.00	2.74	0.00						0.0057	0.0000	0.0057	0.0516	0.0000	0.0516	0.0538	0.0000	0.0538	0.0009	0.0000	0.0009	0.0152	0.0000	0.0152	0.0152	0.0000	0.0152
Emissions Total										0.1719	0.0000	0.1719	5.8998	0.0000	5.8998	0.7796	0.0000	0.7796	0.2544	0.0000	0.2544	0.2242	0.0000	0.2242	0.2242	0.0000	0.2242

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.27	76.24	5.78	1.93	4.84	4.84
		OK	OK	OK	OK	OK	OK

University of Maryland- Combined Heating and Power Plant Facility June 2020

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	0.00	0.00	0.00	0.00		126,099,000	0	131,893	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Turbine 2	257.80	0.00	32183.88	0.00		356,920,000	0	373,320	0	0.0322	0.0000	0.0322	2.0759	0.0000	2.0759	0.2253	0.0000	0.2253	0.0966	0.0000	0.0966	0.0579	0.0000	0.0579	0.0579	0.0000	0.0579
Duct Burner 1	0.00		0.00			36,824,000		38,516		0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000		0.0000		0.0000		0.0000	
Duct Burner 2	78.70		2604.42			145,131,000		151,800		0.0070		0.0070	0.0169		0.0169	0.0130		0.0130	0.0008		0.0008	0.0026		0.0026	0.0026		0.0026
Boiler 2	645.50	0.00	22755.69	0.00						0.0027	0.0000	0.0027	1.1565	0.0000	1.1565	0.0063	0.0000	0.0063	0.0067	0.0000	0.0067	0.1022	0.0000	0.1022	0.1022	0.0000	0.1022
Boiler 4	718.20	0.00	15327.35	0.00						0.0033	0.0000	0.0033	0.7853	0.0000	0.7853	0.0166	0.0000	0.0166	0.0045	0.0000	0.0045	0.0462	0.0000	0.0462	0.0462	0.0000	0.0462
Emerg. Gen.		48.20		374.18	51.7						0.0168	0.0168		0.5987	0.5987		0.1590	0.1590		0.0003	0.0003		0.0107	0.0107		0.0130	0.0130
Temporary Boile	65.00	0.00	5.90	0.00						0.0123	0.0000	0.0123	0.1111	0.0000	0.1111	0.1158	0.0000	0.1158	0.0019	0.0000	0.0019	0.0327	0.0000	0.0327	0.0327	0.0000	0.0327
Emissions Total										0.0575	0.0168	0.0744	4.1457	0.5987	4.7444	0.3770	0.1590	0.5360	0.1104	0.0003	0.1107	0.2415	0.0107	0.2522	0.2415	0.0130	0.2522

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.27	75.20	6.12	1.85	4.78	4.78
		OK	OK	OK	OK	OK	OK

EMISSION TEST COLLEGE PARK ENERGY

Date: 04/06/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		0902		
Recorded Test		0907		
O2		13.4 %		
CO		7 PPM		
Eff		81.5 %		
CO2		4.3 %		
T-Stk		251 °F		
T-Air		73.8 °F		
EA		157.6 %		
CO (15)		5 PPM		
NO		23 PPM		
NO2		5 PPM		
NOX		27 PPM		
SO2		*** PPM		
NO (15)		18 PPM		
NOX (15)		21 PPM		
SO2 (15)		*** PPM		
Mega Watts		9.01		
KSCF/hour		43		

Signature:

Kenneth W. L.

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

#2 GTDB #2GT



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 09:07:51 AM
Date: 04/06/20

Fuel
NGAS

O2:	13.4 %
CO	7 ppm
Eff	81.5 %
CO2	4.3 %
T-STK	251 °F
T-AIR	73.8 °F
EA	157.6 %
CO (15)	5 ppm
NO	23 ppm
NO2	5 ppm
NOx	27 ppm
SO2	*** ppm
NO (15)	18 ppm
NO2 (15)	4 ppm
NOx (15)	21 ppm
SO2 (15)	*** ppm

Draft Reading
-0.09 inwc

Comments:

MW - 9.01
Klbs/hr - 43

PRINT TEST RESULTS

PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date: 04/06/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		0902		
Recorded Test		0907		
O2		13.4 %		
CO		7 ppm		
Eff		81.5 %		
CO2		4.3 %		
T-Stk		251 °F		
T-Air		73.8 °F		
EA		157.6 %		
CO (15)		5 ppm		
NO		23 ppm		
NO2		5 ppm		
NOX		27 ppm		
SO2		*** ppm		
NO (15)		18 ppm		
NOX (15)		21 ppm		
SO2 (15)		*** ppm		
Mega Watts		9.01		
KSCF/hour		43		

Signature: _____

Kenneth

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

#2 GT DB #2GT

BACHARACH

BACHARACH, INC.

PCA 2

SN: RP1001

Time: 09:07:51 AM

Date: 04/06/20

Fuel
NGAS

O2:	13.4 %
CO	7 ppm
Eff	81.5 %
CO2	4.3 %
T-STK	251 °F
T-AIR	73.8 °F
EA	157.6 %
CO (15)	5 ppm
NO	23 ppm
NO2	5 ppm
NOx	27 ppm
SO2	*** ppm
NO (15)	18 ppm
NO2 (15)	4 ppm
NOx (15)	21 ppm
SO2 (15)	*** ppm

Draft Reading
-0.09 inwc

Comments:

MW - 9.01
Klbs/hr - 43

PRINT TEST RESULTS

PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1158		
Recorded Test		1206		
O2		13.2%		
CO		5ppm		
Eff		81.4%		
CO2		4.4%		
T-Stk		256°F		
T-Air		72.9°F		
EA		151.8%		
CO (15)		4ppm		
NO		27ppm		
NO2		6ppm		
NOX		32ppm		
SO2		***		
NO (15)		21ppm		
NOX (15)		25ppm		
SO2 (15)		***		
Mega Watts		9.4		
KSCF/hour		55KSCFH		

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BL
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

Boiler: 1

GT: R1



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 12:06:41 PM
Date: 04/20/20

Fuel
NGAS

O2:	13.2 %
CO	5 ppm
Eff	81.4 %
CO2	4.4 %
T-STK	256 °F
T-AIR	72.9 °F
EA	151.8 %
CO(15)	4 ppm
NO	27 ppm
NO2	6 ppm
NOx	32 ppm
SO2	*** ppm
NO(15)	21 ppm
NO2 (15)	4 ppm
NOx (15)	25 ppm
SO2 (15)	*** ppm

Draft Reading
-0.08 inwc

Comments:

9.4 MW
55 KSCFH

ULTS

LTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 04/27/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1110		
Recorded Test		1117		
O2		12.5%		
CO		8ppm		
Eff		82.3%		
CO2		4.7%		
T-Stk		249°F		
T-Air		69.9°F		
EA		132.8%		
CO (15)		5ppm		
NO		30ppm		
NO2		6ppm		
NOX		36ppm		
SO2		* * *		
NO (15)		21ppm		
NOX (15)		25ppm		
SO2 (15)		* * *		
Mega Watts		9.7 MW		
KSCF/hour		73 KSCFH		

Boiler: RECORD

GT: RECORD TI



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 11:17:31 AM
Date: 04/27/20

GT 2
w/ DB

Fuel
NGAS

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

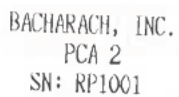
O2:	12.5 %
CO	8 ppm
Eff	82.3 %
CO2	4.7 %
T-STK	249 °F
T-AIR	69.9 °F
EA	132.8 %
CO (15)	5 ppm
NO	30 ppm
NO2	6 ppm
NOx	36 ppm
SO2	* * * ppm
NO (15)	21 ppm
NO2 (15)	4 ppm
NOx (15)	25 ppm
SO2 (15)	* * * ppm

Draft Reading
-0.09 inwc

Comments:

9.7 MW
73 KSCFH

Signature: _____



1 DB	GT 2 DB	GT1	GT2
	1202		
	1213		
	13.1%		
	5ppm		
	815%		
	4.4%		
	261°F		
	78.3°F		
	190.6%		
	3ppm		
	27ppm		
	5ppm		
	32ppm		

	20ppm		
	24ppm		

	8.6 MW		
	53KSCFH		

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

Time: 12:13:14 PM
Date: 05/04/20

GT#2
W/D B Fuel
NGAS

O ₂ :	13.1 %
CO	5 ppm
Eff	81.5 %
CO ₂	4.4 %
T-STK	261 °F
T-AIR	78.3 °F
EA	150.6 %
CO (15)	3 ppm
NO	27 ppm
NO ₂	5 ppm
NO _x	32 ppm
SO ₂	*** ppm
NO (15)	20 ppm
NO ₂ (15)	4 ppm
NO _x (15)	24 ppm
SO ₂ (15)	*** ppm

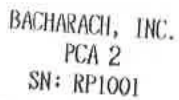
Draft Reading
-0.04 inwc

Comments:

Comments:
8.6 MW
53 KSCFH

[illegible]

Signature: _____



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 11:58:32 AM
Date: 05/11/20

#2GT
N/DB Fuel
NGAS

O ₂	13.4 %
CO	5 ppm
Eff	82.3 %
CO ₂	4.2 %
F-STK	235 °F
F-AIR	72.3 °F
CA	158.6 %
U(15)	4 ppm
O	27 ppm
O ₂	5 ppm
Ox	32 ppm
O ₂	*** ppm
U(15)	21 ppm
U ₂ (15)	4 ppm
Ux(15)	25 ppm
U ₂ (15)	*** ppm

Draft Reading
-0.07 inwc

47 KSCPH
9.2 MW

T 1 DB	GT 2 DB	GT1	GT2
	1150		
	1158		
	13.44%		
	5ppm		
	82.3%		
	4.2%		
	235°F		
	72.3°F		
	158.6%		
	4ppm		
	27ppm		
	5ppm		
	32ppm		
	* * *		
	21ppm		
	25ppm		
	* * *		
	9.2 MW		
	47XSFH		

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), **WAIT 3-5 MINUTES** AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

[illegible]

Signature:

EMISSION TEST COLLEGE PARK ENERGY

Date: 5/18/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		0945		
Recorded Test		0949		
O2		13.3 %		
CO		5 ppm		
Eff		81.5 %		
CO2		4.3 %		
T-Stk		254 °F		
T-Air		74.0 °F		
EA		154.6 %		
CO (15)		4 ppm		
NO		24 ppm		
NO2		5 ppm		
NOX		29 ppm		
SO2		*** ppm		
NO (15)		19 ppm		
NOX (15)		23 ppm		
SO2 (15)		*** ppm		
Mega Watts		8.8		
KSCF/hour		49		

Signature:

Kenneth Hill



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 09:49:12 AM
Date: 05/18/20

Fuel
NGAS

O2:	13.3 %
CO	5 ppm
Eff	81.5 %
CO2	4.3 %
T-STK	254 °F
T-AIR	74.0 °F
EA	154.6 %
CO (15)	4 ppm
NO	24 ppm
NO2	5 ppm
NOx	29 ppm
SO2	*** ppm
NO (15)	19 ppm
NO2 (15)	4 ppm
NOx (15)	23 ppm
SO2 (15)	*** ppm

Draft Reading
-0.06 inwc

Comments:

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

N PRINT TEST RESULTS

J PRINT TEST RESULTS

ET

GT-2 DB

BACHARACH

BACHARACH, INC.

PCA 2

SN: RP1001

Time: 09:04:15 AM

Date: 05/25/20

Fuel

NGAS

O ₂	13.4 %
CO	5 ppm
Eff	81.2 %
CO ₂	4.3 %
T-STK	259 °F
T-AIR	76.6 °F
EA	158.0 %
CO (15)	4 ppm
NO	23 ppm
NO ₂	5 ppm
NO _x	28 ppm
SO ₂	*** ppm
NO (15)	18 ppm
NO ₂ (15)	4 ppm
NO _x (15)	22 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.05 inwc

Comments:

mw - 9.1

) THEN PRINT TEST RESULTS

) THEN PRINT TEST RESULTS

SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 5/25/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		0859		
Recorded Test		0904		
O2		13.4 %		
CO		5 PPM		
Eff		81.2 %		
CO2		4.3 %		
T-Stk		259 °F		
T-Air		76.6 °F		
EA		158.0 %		
CO (15)		4 PPM		
NO		23 PPM		
NO2		5 PPM		
NOX		28 PPM		
SO2		*** PPM		
NO (15)		18 PPM		
NOX (15)		22 PPM		
SO2 (15)		*** PPM		
Mega Watts		9.1		

Signature:

Kenneth Will

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				

Signature:

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test			#2	
O ₂				
CO				
EF				
CO ₂				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO ₂				
NOX				
SO ₂				
NO (15)				
NOX (15)				
SO ₂ (15)				
Mega Watts				
KSCF/hour				

Signature:

Kenneth L. L.

Date	BLR 2	BLR 4
Start Test	1502	1436
Recorded Test	1517	1451
O ₂	4.1 %	4.9 %
CO	4 ppm	0 ppm
EF	84.2 %	80.9 %
CO ₂	9.5 %	9.0 %
T-Stk	344 °F	437 °F
T-Air	94.9 °F	81.4 °F
EA	21.7 %	27.6 %
CO (15)	2 ppm	0 ppm
NO	50 ppm	72 ppm
NO ₂	1 ppm	0 ppm
NOX	51 ppm	72 ppm
SO ₂	*** ppm	*** ppm
NO (15)	17 ppm	27 ppm
NOX (15)	15 ppm	27 ppm
SO ₂ (15)	*** ppm	*** ppm
K lbs hour	33	33

Signature:

Kenneth L. L.

#4

BACHARACH

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 02:51:14 PM
Date: 06/01/20Fuel
NGAS

O ₂	4.9 %
CO	0 ppm
EF	80.9 %
CO ₂	9.0 %
T-Stk	437 °F
T-Air	81.4 °F
EA	27.6 %
CO (15)	0 ppm
NO	72 ppm
NO ₂	0 ppm
NOx	72 ppm
SO ₂	*** ppm
NO (15)	27 ppm
NO ₂ (15)	0 ppm
NOx (15)	27 ppm
SO ₂ (15)	*** ppm

Comments:

Klbs/hr - 33

Comments:

Klbs/hr - 33

PRINT TEST RESULTS

PRINT TEST RESULTS

EMISSION TEST COLLEGE P		
Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature:

Kenneth Will

Date: 060820	BLR 2	BLR 4
Start Test	1138	1138
Recorded Test	1133	1153
O2	3.9 %	4.4 %
CO	7 ppm	0 ppm
Eff	83.7 %	80.9 %
CO2	9.6 %	9.3 %
T-Stk	350 °F	463 °F
T-Air	83.0 °F	98.7 °F
EA	20.2 %	23.9 %
CO (15)	2 ppm	0 ppm
NO	50 ppm	71 ppm
NO2	1 ppm	0 ppm
NOX	50 ppm	71 ppm
SO2	*** ppm	*** ppm
NO (15)	17 ppm	26 ppm
NOX (15)	0 ppm	0 ppm
SO2 (15)	*** ppm	*** ppm
K lbs/hour	51	38

Signature:

Kenneth Will

#2 BLR



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:33:20 AM
Date: 06/08/20

Fuel
NGAS

O2: 3.9 %
CO 7 ppm
Eff 83.7 %
CO2 9.6 %
T-Stk 350 °F
T-Air 83.0 °F
EA 20.2 %
CO (15) 2 ppm
NO 50 ppm
NO2 1 ppm
NOx 50 ppm
SO2 *** ppm
NO (15) 17 ppm
NO2 (15) 0 ppm
NOx (15) 17 ppm
SO2 (15) *** ppm

Comments:

51

#4 BLR
BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:53:00 AM
Date: 06/08/20

Fuel
NGAS

O2: 4.4 %
CO 0 ppm
Eff 80.9 %
CO2 9.3 %
T-Stk 463 °F
T-Air 98.7 °F
EA 23.9 %
CO (15) 0 ppm
NO 71 ppm
NO2 0 ppm
NOx 71 ppm
SO2 *** ppm
NO (15) 26 ppm
NO2 (15) 0 ppm
NOx (15) 26 ppm
SO2 (15) *** ppm

Comments:

38

INUTES AND THEN PRINT TEST RESULTS

INUTES AND THEN PRINT TEST RESULTS

IRM TO THIS SHEET

EMISSION TEST COLLEGE 1

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature: _____

Date:	BLR 2	BLR 4
Start Test	0853 0915	0849
Recorded Test	0905 0934	0905
O2	3.7 %	4.9 %
CO	3 ppm	0 ppm
Eff	83.8 %	80.6 %
CO2	9.7 %	9.0 %
T-Stk	363 °F	454 °F
T-Air	94.3 °F	88.3 °F
EA	19.0 %	27.4 %
CO (15)	1 ppm	0 ppm
NO	50 ppm	63 ppm
NO2	1 ppm	0 ppm
NOX	51 ppm	63 ppm
SO2	***	***
NO (15)	17 ppm	23 ppm
NOX (15)	17 ppm	23 ppm
SO2 (15)	***	***
K lbs/hour	50KPPH	37KPPH

Signature: _____



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 09:05:30 AM
Date: 06/15/20

Fuel
NGAS

O2	4.9 %
CO	0 ppm
Eff	80.6 %
CO2	9.0 %
T-Stk	454 °F
T-Air	88.3 °F
EA	27.4 %
CO (15)	0 ppm
NO	63 ppm
NO2	0 ppm
NOx	63 ppm
SO2	*** ppm
NO (15)	23 ppm
NO2 (15)	0 ppm
NOx (15)	23 ppm
SO2 (15)	*** ppm

Comments:

37KPPH



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 09:34:57 AM
Date: 06/15/20

Fuel
NGAS

O2	3.7 %
CO	3 ppm
Eff	83.8 %
CO2	9.7 %
T-Stk	363 °F
T-Air	94.3 °F
EA	19.0 %
CO (15)	1 ppm
NO	50 ppm
NO2	1 ppm
NOx	51 ppm
SO2	*** ppm
NO (15)	17 ppm
NO2 (15)	0 ppm
NOx (15)	17 ppm
SO2 (15)	*** ppm

Comments:

50KPPH

HEN PRINT TEST RESULTS

HEN PRINT TEST RESULTS

HET

EMISSION TEST COLLEGE PARK ENERGY

Date: 06/22/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			1440	1440
Recorded Test			1456	1456
O2				15.8%
CO				110 ppm
Eff				26.4%
CO2				2.9%
T-Stk				953°F
T-Air				91.3°F
EA				250%
CO (15)				126 ppm
NO				18 ppm
NO2				0 ppm
NOX				18 ppm
SO2				***
NO (15)				21 ppm
NOX (15)				21 ppm
SO2 (15)				***
Mega Watts				8.3 MW
KSCF/hour				

Signature: _____

Date: 06/22/20	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1526	1459		
Recorded Test	1544	1517		
O2	3.6%	4.7%		
CO	1 ppm	0 ppm		
Eff	84.5%	81.5%		
CO2	9.8%	9.1%		
T-Stk	365°F	453°F		
T-Air	122.0°F	117.6°F		
EA	18.4%	26.0%		
CO (15)	0 ppm	0 ppm		
NO	29 ppm	41 ppm		
NO2	0 ppm	0 ppm		
NOX	29 ppm	41 ppm		
SO2	***	***		
NO (15)	20 ppm	15 ppm		
NOX (15)	10 ppm	15 ppm		
SO2 (15)	***	***		
K lbs/hour	54 KPPH	32 KPPH		

Signature: _____

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:56:20 PM
Date: 06/22/20

Fuel 8.3
NGAS MW

O ₂	15.8 %
CO	110 ppm
Eff	26.4 %
CO ₂	2.9 %
T-Stk	953 °F
T-Air	91.3 °F
EA	250.0 %
CO(15)	126 ppm
NO	18 ppm
NO ₂	0 ppm
NO _x	18 ppm
SO ₂	*** ppm
NO(15)	21 ppm
NO ₂ (15)	0 ppm
NO _x (15)	21 ppm
SO ₂ (15)	*** ppm

Comments:



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 03:44:54 PM
Date: 06/22/20

Fuel 54 KPPH
NGAS BLR

O ₂	3.8 %
CO	1 ppm
Eff	84.5 %
CO ₂	9.8 %
T-Stk	365 °F
T-Air	122.0 °F
EA	18.4 %
CO(15)	0 ppm
NO	29 ppm
NO ₂	0 ppm
NO _x	29 ppm
SO ₂	*** ppm
NO(15)	10 ppm
NO ₂ (15)	0 ppm
NO _x (15)	10 ppm
SO ₂ (15)	*** ppm

Comments:



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 03:17:32 PM
Date: 06/22/20

Fuel 32 KPPH
NGAS BLR

O ₂	4.7 %
CO	0 ppm
Eff	81.5 %
CO ₂	9.1 %
T-Stk	453 °F
T-Air	117.6 °F
EA	28.0 %
CO(15)	0 ppm
NO	41 ppm
NO ₂	0 ppm
NO _x	41 ppm
SO ₂	*** ppm
NO(15)	15 ppm
NO ₂ (15)	0 ppm
NO _x (15)	15 ppm
SO ₂ (15)	*** ppm

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature: _____

Date:	BLR 2	BLR 4
Start Test	0958	0938
Recorded Test	1016	0955
O2	4.0%	4.2%
CO	1 ppm	0 ppm
Eff	84.2%	80.2%
CO2	9.6%	9.4%
T-Stk	355°F	493°F
T-Air	106.2°F	100.5°F
EA	20.8%	22.6%
CO (15)	0 ppm	0 ppm
NO	40 ppm	57 ppm
NO2	0 ppm	0 ppm
NOX	40 ppm	57 ppm
SO2	***	***
NO (15)	14 ppm	20 ppm
NOX (15)	14 ppm	20 ppm
SO2 (15)	***	***
K lbs/hour	52 KPPH	46 KPPH

Signature: _____

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1008

Time: 10:16:09 AM
Date: 08/29/20

#2 BLR Fuel
NGAS

O2:	4.0 %
CO	1 ppm
Eff	84.2 %
CO2	9.6 %
T-Stk	355 °F
T-Air	106.2 °F
EA	20.8 %
CO (15)	0 ppm
NO	40 ppm
NO2	0 ppm
NOx	40 ppm
SO2	*** ppm
NO (15)	14 ppm
NO2 (15)	0 ppm
NOx (15)	14 ppm
SO2 (15)	*** ppm

Comments:

52 KPPH

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1008

Time: 09:55:09 AM
Date: 08/29/20

#4 BLR Fuel
NGAS

O2:	4.2 %
CO	0 ppm
Eff	80.2 %
CO2	9.4 %
T-Stk	493 °F
T-Air	100.5 °F
EA	22.6 %
CO (15)	0 ppm
NO	57 ppm
NO2	0 ppm
NOx	57 ppm
SO2	*** ppm
NO (15)	20 ppm
NO2 (15)	0 ppm
NOx (15)	20 ppm
SO2 (15)	*** ppm

Comments:

46 KPPH

RINT TEST RESULTS

INT TEST RESULTS



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

October 23, 2020

Ms. Susan Nash
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Ms. Zelma Maldinado
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Ms. Nash & Ms. Maldinado:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of July 1, 2020 through September 30, 2020.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Phil Riggs, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

University of Maryland- Combined Heating and Power Plant Facility July 2020

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage scf/12-months gal/12-months mmbtu/12-months				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	0.00	0.00	0.00	0.00		37,829,000	0	39,567	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Turbine 2	92.40	0.00	14214.46	0.00		370,510,000	0	387,535	0	0.0142	0.0000	0.0142	0.9168	0.0000	0.9168	0.0995	0.0000	0.0995	0.0426	0.0000	0.0426	0.0256	0.0000	0.0256	0.0256	0.0000	0.0256
Duct Burner 1	0.00		0.00			10,764,000		11,259		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Duct Burner 2	0.00		0.00			145,131,000		151,800		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Boiler 2	672.00	0.00	31138.98	0.00						0.0037	0.0000	0.0037	1.5826	0.0000	1.5826	0.0086	0.0000	0.0086	0.0092	0.0000	0.0092	0.1398	0.0000	0.1398	0.1398	0.0000	0.1398
Boiler 4	646.50	0.00	28497.95	0.00						0.0061	0.0000	0.0061	1.4600	0.0000	1.4600	0.0308	0.0000	0.0308	0.0084	0.0000	0.0084	0.0859	0.0000	0.0859	0.0859	0.0000	0.0859
Emerg. Gen.		0.00		0.00	51.7						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Temporary Boile	27.00	0.00	0.20	0.00						0.0004	0.0000	0.0004	0.0037	0.0000	0.0037	0.0038	0.0000	0.0038	0.0001	0.0000	0.0001	0.0011	0.0000	0.0011	0.0011	0.0000	0.0011
Emissions Total										0.0244	0.0000	0.0244	3.9632	0.0000	3.9632	0.1428	0.0000	0.1428	0.0602	0.0000	0.0602	0.2523	0.0000	0.2523	0.2523	0.0000	0.2523

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.18	72.40	5.98	1.62	4.70	4.70
		OK	OK	OK	OK	OK	OK

University of Maryland- Combined Heating and Power Plant Facility August 2020

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	0.00	0.00	0.00	0.00		0	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Turbine 2	557.80	0.00	56826.46	0.00		424,840,000	0	444,361	0	0.0568	0.0000	0.0568	3.6653	0.0000	3.6653	0.3978	0.0000	0.3978	0.1705	0.0000	0.1705	0.1023	0.0000	0.1023	0.1023	0.0000	0.1023
Duct Burner 1	0.00		0.00			0		0		0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000		0.0000		0.0000		0.0000	
Duct Burner 2	54.40		1893.17			146,941,000		153,693		0.0051		0.0051	0.0123		0.0123	0.0095		0.0095	0.0006		0.0006	0.0019		0.0019	0.0019		0.0019
Boiler 2	743.50	0.00	88647.40	0.00						0.0105	0.0000	0.0105	4.5054	0.0000	4.5054	0.0245	0.0000	0.0245	0.0261	0.0000	0.0261	0.3980	0.0000	0.3980	0.3980	0.0000	0.3980
Boiler 4	690.20	0.00	34732.86	0.00						0.0074	0.0000	0.0074	1.7795	0.0000	1.7795	0.0376	0.0000	0.0376	0.0102	0.0000	0.0102	0.1046	0.0000	0.1046	0.1046	0.0000	0.1046
Emerg. Gen.		0.00		0.00	51.7						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Temporary Boile	42.30	0.00	0.46	0.00						0.0010	0.0000	0.0010	0.0086	0.0000	0.0086	0.0090	0.0000	0.0090	0.0001	0.0000	0.0001	0.0025	0.0000	0.0025	0.0025	0.0000	0.0025
Emissions Total										0.0808	0.0000	0.0808	9.9711	0.0000	9.9711	0.4783	0.0000	0.4783	0.2075	0.0000	0.2075	0.6093	0.0000	0.6093	0.6093	0.0000	0.6093

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.20	76.52	6.31	1.68	4.93	4.93
		OK	OK	OK	OK	OK	OK

University of Maryland- Combined Heating and Power Plant Facility September 2020

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	39.30	0.00	0.00	0.00		0	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Turbine 2	714.30	0.00	81489.96	0.00		502,750,000	0	525,851	0	0.0815	0.0000	0.0815	5.2561	0.0000	5.2561	0.5704	0.0000	0.5704	0.2445	0.0000	0.2445	0.1467	0.0000	0.1467	0.1467	0.0000	0.1467
Duct Burner 1	0.00		0.00			0		0		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000	
Duct Burner 2	619.80		32748.69			178,251,000		186,442		0.0883		0.0883	0.2129		0.2129	0.1637		0.1637	0.0096		0.0096	0.0321		0.0321	0.0321		0.0321
Boiler 2	666.90	6.50	19345.89	556.20						0.0023	0.0004	0.0027	0.9832	0.0339	1.0172	0.0053	0.0061	0.0115	0.0057	0.0123	0.0180	0.0869	0.0217	0.1086	0.0869	0.0217	0.1086
Boiler 4	85.10	44.70	603.51	4112.94						0.0001	0.0028	0.0029	0.0309	0.2687	0.2997	0.0007	0.0626	0.0632	0.0002	0.0884	0.0886	0.0018	0.1419	0.1438	0.0018	0.1419	0.1438
Emerg. Gen.		0.00		0.00	51.7						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000
Temporary Boile	34.90	0.00	0.17	0.00						0.0004	0.0000	0.0004	0.0033	0.0000	0.0033	0.0034	0.0000	0.0034	0.0001	0.0000	0.0001	0.0010	0.0000	0.0010	0.0010	0.0000	0.0010
Emissions Total										0.1726	0.0032	0.1758	6.4864	0.3027	6.7890	0.7436	0.0687	0.8122	0.2600	0.1007	0.3607	0.2685	0.1637	0.4321	0.2685	0.1637	0.4321

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.36	79.16	7.07	2.02	5.04	5.04
		OK	OK	OK	OK	OK	OK



BACHARACH, INC.
PCA 3
SN: TP1008

Time: 10:57:32 AM
Date: 07/08/20

#1 BUR Fuel 22KPPH
NGAS

O ₂	8.5 %
CO	0 ppm
Eff	81.9 %
CO ₂	8.1 %
T-Stk	404 °F
T-Air	109.7 °F
EA	40.4 %
CO (15)	0 ppm
NO	47 ppm
NO ₂	0 ppm
NO _x	47 ppm
SO ₂	*** ppm
NO (15)	19 ppm
NO ₂ (15)	0 ppm
NO _x (15)	19 ppm
SO ₂ (15)	*** ppm

Comments:



BACHARACH, INC.
PCA 3
SN: TP1008

Time: 11:25:58 AM
Date: 07/08/20

#2 BUR Fuel 65KPPH
NGAS

O ₂	3.1 %
CO	2 ppm
Eff	84.0 %
CO ₂	10.0 %
T-Stk	381 °F
T-Air	115.3 °F
EA	15.8 %
CO (15)	1 ppm
NO	27 ppm
NO ₂	0 ppm
NO _x	27 ppm
SO ₂	*** ppm
NO (15)	9 ppm
NO ₂ (15)	0 ppm
NO _x (15)	9 ppm
SO ₂ (15)	*** ppm

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1102	1035		
Recorded Test	1125	1057		
O2	3.1%	6.5%		
CO	2ppm	0ppm		
Eff	84%	81.9%		
CO2	10.0%	8.1%		
T-Stk	381°F	404°F		
T-Air	115.3°F	109.7°F		
EA	15.8%	40.4%		
CO (15)	1ppm	0ppm		
NO	27ppm	47ppm		
NO2	0ppm	0ppm		
NOX	27ppm	47ppm		
SO2	***	***		
NO (15)	9ppm	19ppm		
NOX (15)	9ppm	19ppm		
SO2 (15)	***	***		
K lbs/hour	165KPPH	22KPPH		

Signature: _____

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS



BACHARACH, INC.

PCA 3

SN: 7P1006

NG ATTACH FORM TO THIS SHEET

1), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

BACHARACH, INC.

PCA 3

SN: 7P1006

Time: 04:47:28 PM
Date: 07/13/20

Time: 04:27:16 PM
Date: 07/13/20

Fuel
NGAS

O₂: 6.3 %
CO: 0 ppm
Eff: 81.6 %
CO₂: 8.2 %
T-Stk: 408 °F
T-Air: 101.3 °F
EA: 38.8 %
CO (15): 0 ppm
NO: 66 ppm
NO₂: 66 ppm
NOx: 66 ppm
SO₂: 27 ppm
NO (15): 27 ppm
NO₂ (15): 27 ppm
NOx (15): 27 ppm
SO₂ (15): 27 ppm

Comments: #4 Boiler

Fuel
NGAS

O₂: 3.1 %
CO: 3 ppm
Eff: 83.8 %
CO₂: 10.0 %
T-Stk: 384 °F
T-Air: 110.2 °F
EA: 15.7 %
CO (15): 1 ppm
NO: 24 ppm
NO₂: 24 ppm
NOx: 24 ppm
SO₂: 8 ppm
NO (15): 8 ppm
NO₂ (15): 8 ppm
NOx (15): 8 ppm
SO₂ (15): 8 ppm

Comments: #2 Boiler

Date: _____
Start Test _____
Recorded Test _____
O₂ _____
CO _____
Eff _____
CO₂ _____
T-Stk _____
T-Air _____
EA _____
CO (15) _____
NO _____
NO₂ _____
NOx _____
SO₂ _____
NO (15) _____
NOx (15) _____
SO₂ (15) _____
Mega Watts _____
KSCF/hour _____

Signature: _____

Date: 13 JUL 2020	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1631	1612		
Recorded Test	1647	1627		
O ₂	3.1 %	6.3 %		
CO	3 ppm	0 ppm		
Eff	83.8 %	81.6 %		
CO ₂	10.0 %	8.2 %		
T-Stk	384 °F	408 °F		
T-Air	110.2 °F	101.3 °F		
EA	15.7 %	38.8 %		
CO (15)	1 ppm	0 ppm		
NO	24 ppm	66 ppm		
NO ₂	0 ppm	0 ppm		
NOx	24 ppm	66 ppm		
SO ₂	—	—		
NO (15)	8 ppm	27 ppm		
NOx (15)	8 ppm	27 ppm		
SO ₂ (15)	—	—		
K lbs/hour	67	26		

Signature: 

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature:

N/A

BLR #2

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:55:20 AM
Date: 07/20/20

Fuel
NGAS

O2: 3.4 %
CO 5 ppm
Eff 83.2 %
CO2 9.9 %
T-Stk 398 °F
T-Air 102.7 °F
EA 17.2 %
CO (15) 2 ppm
NO 38 ppm
NO2 0 ppm
NOx 38 ppm
SO2 *** ppm
NO (15) 13 ppm
NO2 (15) 0 ppm
NOx (15) 13 ppm
SO2 (15) *** ppm

Comments:

Klbs/hr : 68

BLR #4

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:20:20 AM
Date: 07/20/20

Fuel
NGAS

O2: 5.8 %
CO 0 ppm
Eff 82.3 %
CO2 8.5 %
T-Stk 414 °F
T-Air 122.2 °F
EA 34.6 %
CO (15) 0 ppm
NO 59 ppm
NO2 0 ppm
NOx 59 ppm
SO2 *** ppm
NO (15) 23 ppm
NO2 (15) 0 ppm
NOx (15) 23 ppm
SO2 (15) *** ppm

Comments:

Klbs/hr: 26

3 SHEET

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

Date: 7/20/2020	BLR 2	BLR 4
Start Test	1040	1105
Recorded Test	1055	1120
O2	3.4 %	5.8 %
CO	5 ppm	0 ppm
Eff	83.2 %	82.3 %
CO2	9.9 %	8.5 %
T-Stk	398 °F	414 °F
T-Air	102.7 °F	122.2 °F
EA	17.2 %	34.6 %
CO (15)	2 ppm	0 ppm
NO	38 ppm	59 ppm
NO2	0 ppm	0 ppm
NOX	38 ppm	59 ppm
SO2	*** ppm	*** ppm
NO (15)	13 ppm	23 ppm
NOX (15)	13 ppm	23 ppm
SO2 (15)	*** ppm	*** ppm
K lbs/hour	68	26

Signature:

Kenneth Will

EMISSION TEST COLLEG

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O ₂		
CO		
Eff		
CO ₂		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO ₂		
NOX		
SO ₂		
NO (15)		
NOX (15)		
SO ₂ (15)		
Mega Watts		
KSCF/hour		

Signature: _____

Date:	BLR 2	BLR 4
Start Test	1609	1629
Recorded Test	1624	1644
O ₂	3.2 %	5.7 %
CO	6 ppm	0 ppm
Eff	83.0 %	82.2 %
CO ₂	15.1 %	8.6 %
T-Stk	394 °F	412 °F
T-Air	90.6 °F	117.0 °F
EA	15.8 %	33.6 %
CO (15)	2 ppm	0 ppm
NO	41 ppm	64 ppm
NO ₂	0 ppm	0 ppm
NOX	41 ppm	64 ppm
SO ₂	*** ppm	*** ppm
NO (15)	14 ppm	25 ppm
NOX (15)	14 ppm	25 ppm
SO ₂ (15)	*** ppm	*** ppm
K lbs hour	70	24

Signature: _____

BLR
#2

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006Time: 04:24:13 PM
Date: 07/27/20Fuel
NGAS

O₂: 3.2 %
CO: 6 ppm
Eff: 83.0 %
CO₂: 15.1 %
T-Stk: 394 °F
T-Air: 90.6 °F
EA: 15.8 %
CO (15): 2 ppm
NO: 41 ppm
NO₂: 0 ppm
NOX: 41 ppm
SO₂: *** ppm
NO (15): 14 ppm
NO₂ (15): 0 ppm
NOX (15): 14 ppm
SO₂ (15): *** ppm

Comments:

Klbs/h: 70

BLR #4

BACHARACH, INC.
PCA 3
SN: TP1006Time: 04:44:56 PM
Date: 07/27/20Fuel
NGAS

O₂: 5.7 %
CO: 0 ppm
Eff: 82.2 %
CO₂: 8.6 %
T-Stk: 412 °F
T-Air: 117.0 °F
EA: 33.6 %
CO (15): 0 ppm
NO: 64 ppm
NO₂: 0 ppm
NOX: 64 ppm
SO₂: *** ppm
NO (15): 25 ppm
NO₂ (15): 0 ppm
NOX (15): 25 ppm
SO₂ (15): *** ppm

Comments:

Klbs/h: 24

NOTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

MTO THIS SHEET

EMISSION TEST COLLEGE P

BLR #2

BLR #4

BACHARACH

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 08:14:39 AM
Date: 08/03/20

Time: 08:33:59 AM
Date: 08/03/20

Fuel
NGAS

Fuel
NGAS

O₂: 3.3 %
CO: 9 ppm
Eff: 83.0 %
CO₂: 9.9 %
T-Stk: 390 °F
T-Air: 89.8 °F
EA: 16.7 %
CO (15): 3 ppm
NO: 46 ppm
NO₂: 0 ppm
NO_x: 46 ppm
SO₂: *** ppm
NO (15): 16 ppm
NO₂ (15): 0 ppm
NO_x (15): 16 ppm
SO₂ (15): *** ppm

O₂: 5.8 %
CO: 0 ppm
Eff: 81.9 %
CO₂: 8.5 %
T-Stk: 415 °F
T-Air: 110.4 °F
EA: 34.5 %
CO (15): 0 ppm
NO: 63 ppm
NO₂: 0 ppm
NO_x: 63 ppm
SO₂: *** ppm
NO (15): 25 ppm
NO₂ (15): 0 ppm
NO_x (15): 25 ppm
SO₂ (15): *** ppm

Comments:

Comments:

K lbs/hr: 72

K lbs/hr: 23

D THEN PRINT TEST RESULTS

) THEN PRINT TEST RESULTS

S SHEET

Date: 08/03/20	BLR 2	BLR 4
Start Test	0759	0818
Recorded Test	0814	0833
O ₂	3.3 %	5.8 %
CO	9 ppm	0 ppm
Eff	83.0 %	81.9 %
CO ₂	9.9 %	8.5 %
T-Stk	390 °F	415 °F
T-Air	89.8 °F	110.4 °F
EA	16.7 %	34.5 %
CO (15)	3 ppm	0 ppm
NO	46 ppm	63 ppm
NO ₂	0 ppm	0 ppm
NO _x	46 ppm	63 ppm
SO ₂	*** ppm	*** ppm
NO (15)	16 ppm	25 ppm
NO _x (15)	16 ppm	25 ppm
SO ₂ (15)	*** ppm	*** ppm
K lbs/hour	72	23

Signature:

Kenneth Lull

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1755	1730		
Recorded Test	1804	1752		
O2	35%	6.5%		
CO	6ppm	0ppm		
Eff	83.2%	82.0%		
CO2	9.8%	8.1%		
T-Stk	415°F	409°F		
T-Air	122.1°F	117.7°F		
EA	18.1%	40.3%		
CO (15)	2ppm	0ppm		
NO	45ppm	64ppm		
NO2	0ppm	0ppm		
NOX	45ppm	64ppm		
SO2	***	***		
NO (15)	15ppm	26ppm		
NOX (15)	15ppm	26ppm		
SO2 (15)	***	***		
K lbs/hour	74 KPPH	23 KPPH		

Signature: _____



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 08:04:52 PM
Date: 08/10/20

#2
BOILER Fuel
NGAS

O ₂	3.5 %
CO	6 ppm
Eff	83.2 %
CO ₂	9.8 %
T-STK	415 °F
T-AIR	122.1 °F
EA	18.1 %
CO (15)	2 ppm
NO	45 ppm
NO ₂	0 ppm
NO _x	45 ppm
SO ₂	*** ppm
NO (15)	15 ppm
NO ₂ (15)	0 ppm
NO _x (15)	15 ppm
SO ₂ (15)	*** ppm

Draft Reading
-1.54 inwc

Comments:

74KPPH



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 05:52:47 PM
Date: 08/10/20

#4
BOILER Fuel
NGAS

O ₂	6.5 %
CO	0 ppm
Eff	82.0 %
CO ₂	8.1 %
T-STK	409 °F
T-AIR	117.7 °F
EA	40.3 %
CO (15)	0 ppm
NO	64 ppm
NO ₂	0 ppm
NO _x	64 ppm
SO ₂	*** ppm
NO (15)	28 ppm
NO ₂ (15)	0 ppm
NO _x (15)	28 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.49 inwc

Comments:

23KPPH

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				1649
Recorded Test				1654
O2				15.7%
CO				0 PPM
Eff				27.2%
CO2				2.9%
T-Stk				949°F
T-Air				85°F
EA				250.0%
CO (15)				0 PPM
NO				9 PPM
NO2				0 PPM
NOX				9 PPM
SO2				***
NO (15)				11 PPM
NOX (15)				11 PPM
SO2 (15)				***
Mega Watts				8.53 MW
KSCF/hour				

Signature: _____

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

Date: 08/17/20	BLR 2	BLR 4	BLR 2	BLR 4
Start Test 1417	1717	1700		
Recorded Test	1733	1715		
O2	3.3%	6.6%		
CO	5ppm	0		
Eff	83.0%	81.8%		
CO2	9.9%	8.1%		
T-Stk	413°F	406°F		
T-Air	111.5°F	108.2°F		
EA	16.7%	40.6%		
CO (15)	20ppm	0 PPM		
NO	44ppm	45 PPM		
NO2	1ppm	0 PPM		
NOX	44ppm	45 PPM		
SO2	***	***		
NO (15)	15ppm	18 PPM		
NOX (15)	15ppm	18 PPM		
SO2 (15)	***	***		
K lbs/hour	83 KPPH	22 KPPH		

Signature: _____

BACHARACH

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 05:33:10 PM

Date: 08/17/20

#2
Boiler

Fuel
NGAS

O ₂	3.3 %
CO	5 ppm
Eff	83.0 %
CO ₂	9.9 %
T-Stk	413 °F
T-Air	111.5 °F
EA	18.7 %
CO(15)	2 ppm
NO	44 ppm
NO ₂	1 ppm
NOx	44 ppm
SO ₂	*** ppm
NO(15)	15 ppm
NO ₂ (15)	0 ppm
NOx(15)	15 ppm
SO ₂ (15)	*** ppm

Comments:

83KPPH

BACHARACH

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 04:54:35 PM

Date: 08/17/20

#2 GT

Fuel
NGAS

O ₂	15.7 %
CO	0 ppm
Eff	27.2 %
CO ₂	2.9 %
T-Stk	949 °F
T-Air	85.0 °F
EA	250.0 %
CO(15)	0 ppm
NO	9 ppm
NO ₂	0 ppm
NOx	9 ppm
SO ₂	*** ppm
NO(15)	11 ppm
NO ₂ (15)	0 ppm
NOx(15)	11 ppm
SO ₂ (15)	*** ppm

Comments:

8.53 MW

BACHARACH

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 05:15:45 PM

Date: 08/17/20

#4
Boiler

Fuel
NGAS

O ₂	6.6 %
CO	0 ppm
Eff	81.8 %
CO ₂	8.1 %
T-Stk	406 °F
T-Air	108.2 °F
EA	40.6 %
CO(15)	0 ppm
NO	45 ppm
NO ₂	0 ppm
NOx	45 ppm
SO ₂	*** ppm
NO(15)	18 ppm
NO ₂ (15)	0 ppm
NOx(15)	18 ppm
SO ₂ (15)	*** ppm

Comments:

22KPPH

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				1359
Recorded Test				1404
O2				15.8%
CO				1 PPM
Eff				24.4%
CO2				2.9%
T-Stk				967°F
T-Air				83.9°F
EA				250%
CO (15)				1 PPM
NO				0 PPM
NO2				0 PPM
NOX				0 PPM
SO2				***
NO (15)				0 PPM
NOX (15)				0 PPM
SO2 (15)				***
Mega Watts				8
KSCF/hour				

Signature: DM Smea

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	14 08	1436 1426		
Recorded Test	1423	1441		
O2	3.5%	6.5%		
CO	6 PPM	0 PPM		
Eff	83.1%	82%		
CO2	9.8%	8.1%		
T-Stk	399°F	408°F		
T-Air	104.7°F	116.8°F		
EA	18%	39.9%		
CO (15)	2 PPM	0 PPM		
NO	15 PPM	38 PPM		
NO2	1 PPM	0 PPM		
NOX	16 PPM	38 PPM		
SO2	***	***		
NO (15)	5 PPM	15 PPM		
NOX (15)	6 PPM	0 PPM 15 PPM		
SO2 (15)	***	***		
K lbs/hour	75 K	24 K		

Signature: DM Smea

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:04:04 PM
Date: 08/24/20

Fuel
NGAS

O ₂	15.8 %
CO	1 ppm
Eff	24.4 %
CO ₂	2.9 %
T-Stk	987 °F
T-Air	83.9 °F
EA	250.0 %
CO (15)	1 ppm
NO	0 ppm
NO ₂	0 ppm
NO _x	0 ppm
SO ₂	*** ppm
NO (15)	0 ppm
NO ₂ (15)	0 ppm
NO _x (15)	0 ppm
SO ₂ (15)	*** ppm

Comments:

GT#2

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:41:36 PM
Date: 08/24/20

Fuel
NGAS

O ₂	6.5 %
CO	0 ppm
Eff	82.0 %
CO ₂	8.1 %
T-Stk	408 °F
T-Air	116.8 °F
EA	39.9 %
CO (15)	0 ppm
NO	38 ppm
NO ₂	0 ppm
NO _x	38 ppm
SO ₂	*** ppm
NO (15)	15 ppm
NO ₂ (15)	0 ppm
NO _x (15)	15 ppm
SO ₂ (15)	*** ppm

Comments:

BOILER
#4

\$905.76

o||c HD||ed|| r99IX||=i||n+||n?G1/4n%
+NM||-|| (kkKk1k8kkzrk8+||e-||e}||s||e||
||o||rm||?||s||r||n||r||e||e||n||?||e||n||



?FF#A?#||7#

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:23:20 PM
Date: 08/24/20

Fuel
NGAS

O ₂	3.5 %
CO	6 ppm
Eff	83.1 %
CO ₂	9.8 %
T-Stk	399 °F
T-Air	104.7 °F
EA	18.0 %
CO (15)	2 ppm
NO	15 ppm
NO ₂	1 ppm
NO _x	16 ppm
SO ₂	*** ppm
NO (15)	5 ppm
NO ₂ (15)	0 ppm
NO _x (15)	6 ppm
SO ₂ (15)	*** ppm

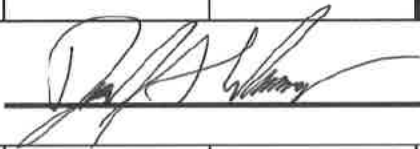
Comments:

BOILER
#2

EMISSION TEST COLLEGE PARK ENERGY

Date: 8/25/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test 0711				0711
Recorded Test				0716
O2				15.6%
CO				8 ppm
Eff				27.3%
CO2				3.0%
T-Stk				963°F
T-Air				84.8°F
EA				250.0%
CO (15)				9 ppm
NO				16 ppm
NO2				0 ppm
NOX				16 ppm
SO2				*** ppm
NO (15)				10 ppm 0 ppm
NOX (15)				18 ppm
SO2 (15)				*** ppm
Mega Watts				8.7 MW
KSCF/hour				

Signature: _____



Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.

PCA 3

SN: TP1008

Time: 07:16:39 AM

Date: 08/25/20

Fuel

NGAS

O ₂	15.6 %
CO	8 ppm
Eff	27.3 %
CO ₂	3.0 %
T-Stk	983 °F
T-Air	84.8 °F
EA	250.0 %
CO (15)	9 ppm
NO	18 ppm
NO ₂	0 ppm
NO _x	18 ppm
SO ₂	ppm
NO (15)	18 ppm
NO ₂ (15)	0 ppm
NO _x (15)	18 ppm
SO ₂ (15)	ppm

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				1634
Recorded Test				1629
O2				15.9%
CO				0 PPM
Eff				23.3%
CO2				2.8%
T-Stk				961°F
T-Air				85.1°F
EA				250%
CO (15)				1 PPM
NO				18 PPM
NO2				0 PPM
NOX				18 PPM
SO2				***
NO (15)				21 PPM
NOX (15)				21 PPM
SO2 (15)				***
Mega Watts				8.7 MW
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test			1538	1557
Recorded Test			1553	1612
O2			3.2%	6.5%
CO			6 PPM	0 PPM
Eff			82.6%	81.6%
CO2			10%	8.1%
T-Stk			414°F	403°F
T-Air			92.5°F	99.3°F
EA			15.9%	40.5%
CO (15)			2 PPM	0 PPM
NO			23 PPM	55 PPM
NO2			1 PPM	0 PPM
NOX			24 PPM	55 PPM
SO2			***	***
NO (15)			8 PPM	23 PPM
NOX (15)			8 PPM	23 PPM
SO2 (15)			***	***
K lbs/hour			79 KPPH	21 KPPH

Signature: _____

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 04:39:27 PM
Date: 08/31/20

Fuel
NGAS

O ₂	15.9 %
CO	0 ppm
Eff	23.3 %
CO ₂	2.8 %
T-Stk	961 °F
T-Air	85.1 °F
EA	250.0 %
CO(15)	1 ppm
NO	18 ppm
NO ₂	0 ppm
NOx	18 ppm
SO ₂	*** ppm
NO(15)	21 ppm
NO ₂ (15)	0 ppm
NOx(15)	21 ppm
SO ₂ (15)	*** ppm

Comments:

GT#2
87 MW



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 03:53:43 PM
Date: 08/31/20

Fuel
NGAS

O ₂	3.2 %
CO	6 ppm
Eff	82.6 %
CO ₂	10.0 %
T-Stk	414 °F
T-Air	92.5 °F
EA	15.9 %
CO(15)	2 ppm
NO	23 ppm
NO ₂	1 ppm
NOx	24 ppm
SO ₂	*** ppm
NO(15)	8 ppm
NO ₂ (15)	0 ppm
NOx(15)	8 ppm
SO ₂ (15)	*** ppm

Comments:

BOLIER #2
79 KPPH



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 04:12:37 PM
Date: 08/31/20

Fuel
NGAS

O ₂	6.5 %
CO	0 ppm
Eff	81.6 %
CO ₂	8.1 %
T-Stk	403 °F
T-Air	99.3 °F
EA	40.5 %
CO(15)	0 ppm
NO	55 ppm
NO ₂	0 ppm
NOx	55 ppm
SO ₂	*** ppm
NO(15)	23 ppm
NO ₂ (15)	0 ppm
NOx(15)	23 ppm
SO ₂ (15)	*** ppm

Comments:

BOLIER #4
21 KPPH

EMISSION TEST COLLEGE

Date: 09/07/2020	GT 1 DB	GT 2 DB
Start Test		1407
Recorded Test		1412
O2		13.3%
CO		6 PPM
Eff		80.7%
CO2		4.3%
T-Stk		272°F
T-Air		77.6°F
EA		155.5%
CO (15)		5 PPM
NO		22 PPM
NO2		3 PPM
NOX		25 PPM
SO2		***
NO (15)		17 PPM
NOX (15)		20 PPM
SO2 (15)		***
Mega Watts		7.76
KSCF/hour		48

Signature: psm soua

Date: 09/07/2020	BLR 2	BLR 4
Start Test	1426	
Recorded Test	1441	
O2	7%	
CO	0 PPM	
Eff	84.6%	
CO2	7.9%	
T-Stk	302°F	
T-Air	101.8°F	
EA	44.4%	
CO (15)	0 PPM	
NO	43 PPM	
NO2	1 PPM	
NOX	44 PPM	
SO2	***	
NO (15)	18 PPM	
NOX (15)	19 PPM	
SO2 (15)	***	
K lbs/hour	24.74 KPPH	

Signature: psm soua

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:12:48 PM
Date: 09/07/20

Fuel
NGAS

O2	13.3 %
CO	6 ppm
Eff	80.7 %
CO2	4.3 %
T-Stk	272 °F
T-Air	77.6 °F
EA	155.5 %
CO (15)	5 ppm
NO	22 ppm
NO2	3 ppm
NOx	25 ppm
SO2	*** ppm
NO (15)	17 ppm
NO2 (15)	2 ppm
NOx (15)	20 ppm
SO2 (15)	*** ppm

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:41:25 PM
Date: 09/07/20

Fuel
NGAS

O2	7.0 %
CO	0 ppm
Eff	84.6 %
CO2	7.9 %
T-Stk	302 °F
T-Air	101.8 °F
EA	44.4 %
CO (15)	0 ppm
NO	43 ppm
NO2	1 ppm
NOx	44 ppm
SO2	*** ppm
NO (15)	18 ppm
NO2 (15)	0 ppm
NOx (15)	19 ppm
SO2 (15)	*** ppm

Comments:

GT #2 COMBINED
48 KSCFH
7.76 MW

Comments:

BOLLER #2
24.74 KPPH

D THEN PRINT TEST RESULTS

) THEN PRINT TEST RESULTS

3 SHEET

EMISSION TEST COLLEGE I

Date: 9/14/2020	GT 1 DB	GT 2 DB
Start Test		1358
Recorded Test		1403
O2		13.6 %
CO		5 ppm
Eff		80.8 %
CO2		4.1 %
T-Stk		275 °F
T-Air		88.5 °F
EA		164.8 %
CO (15)		4 ppm
NO		22 ppm
NO2		3 ppm
NOX		25 ppm
SO2		*** ppm
NO (15)		18 ppm
NOX (15)		20 ppm
SO2 (15)		*** ppm
Mega Watts		7.8
KSCF/hour		48

Signature:

Kenneth W. Lee

Date: 9/14/2020	BLR 2	BLR 4
Start Test	1404	
Recorded Test	1419	
O2	7.3 %	
CO	12 ppm	
Eff	84.4 %	
CO2	7.7 %	
T-Stk	296 °F	
T-Air	92.7 °F	
EA	47.8 %	
CO (15)	5 ppm	
NO	38 ppm	
NO2	6 ppm	
NOX	44 ppm	
SO2	*** ppm	
NO (15)	17 ppm	
NOX (15)	19 ppm	
SO2 (15)	*** ppm	
K lbs/hour	18	

Signature:

Kenneth W. Lee

GT #2 DB

BLR 2

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:03:13 PM
Date: 09/14/20

Fuel
NGAS

O2:	13.6 %
CO	5 ppm
Eff	80.8 %
CO2	4.1 %
T-Stk	275 °F
T-Air	88.5 °F
EA	164.8 %
CO (15)	4 ppm
NO	22 ppm
NO2	3 ppm
NOx	25 ppm
SO2	*** ppm
NO (15)	18 ppm
NO2 (15)	2 ppm
NOx (15)	20 ppm
SO2 (15)	*** ppm

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:19:12 PM
Date: 09/14/20

Fuel
NGAS

O2:	7.3 %
CO	12 ppm
Eff	84.4 %
CO2	7.7 %
T-Stk	296 °F
T-Air	92.7 °F
EA	47.8 %
CO (15)	5 ppm
NO	38 ppm
NO2	6 ppm
NOx	44 ppm
SO2	*** ppm
NO (15)	17 ppm
NO2 (15)	3 ppm
NOx (15)	19 ppm
SO2 (15)	*** ppm

Comments:

Mega Watts: 7.8
KSCF/hr: 48

Comments:

K lbs/hr 18

D THEN PRINT TEST RESULTS


) THEN PRINT TEST RESULTS

S SHEET

EMISSION TEST COLLEGE PARK ENERGY

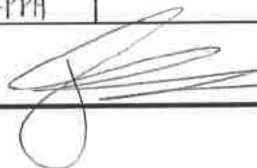
Date: 09/21/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				1530
Recorded Test				1537
O2				15.7%
CO				0ppm
Eff				27.9%
CO2				3.0%
T-Stk				948°F
T-Air				90.8°F
EA				250%
CO (15)				0ppm
NO				***
NO2				0ppm
NOX				***
SO2				***
NO (15)				***
NOX (15)				***
SO2 (15)				***
Mega Watts				9.2 MW (sc)
KSCF/hour				

Signature:

 Dario DeLeon

Date: 09/21/20	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1601			
Recorded Test	1616			
O2	3.9%			
CO	98ppm			
Eff	81.9%			
CO2	9.6%			
T-Stk	426°F			
T-Air	89.4°F			
EA	20.3%			
CO (15)	34ppm			
NO	***			
NO2	1ppm			
NOX	***			
SO2	***			
NO (15)	***			
NOX (15)	***			
SO2 (15)	***			
K lbs/hour	85 KPPH			

Signature:

 Dario DeLeon

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 04:16:17 PM
Date: 09/21/20

Boiler
#2
85KPPH

Fuel
NGAS

O ₂	3.9 %
CO	98 ppm
Eff	81.9 %
CO ₂	9.6 %
T-Stk	426 °F
T-Air	89.4 °F
EA	20.3 %
CO(15)	34 ppm
NO	*** ppm
NO ₂	1 ppm
NO _x	*** ppm
SO ₂	*** ppm
NO(15)	*** ppm
NO ₂ (15)	0 ppm
NO _x (15)	*** ppm
SO ₂ (15)	*** ppm

Comments:



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 03:37:24 PM
Date: 09/21/20

Fuel
NGAS

O ₂	15.7 %
CO	0 ppm
Eff	27.9 %
CO ₂	3.0 %
T-Stk	948 °F
T-Air	90.8 °F
EA	250.0 %
CO(15)	0 ppm
NO	*** ppm
NO ₂	0 ppm
NO _x	*** ppm
SO ₂	*** ppm
NO(15)	*** ppm
NO ₂ (15)	0 ppm
NO _x (15)	*** ppm
SO ₂ (15)	*** ppm

Comments:

GT#2 SIMPLE
9.2MW CYCLE

EMISSION TEST COLLEGE 1

GT2 DB

BLR 2

Date: 9/22/2020	GT 1 DB	GT 2 DB
Start Test		0747
Recorded Test		0752
O2		15.8 %
CO		0 ppm
Eff		75.1 %
CO2		2.9 %
T-Stk		280 °F
T-Air		69.1 °F
EA		250.0 %
CO (15)		0 ppm
NO		17 ppm
NO2		2 ppm
NOX		19 ppm
SO2		*** ppm
NO (15)		20 ppm
NOX (15)		22 ppm
SO2 (15)		*** ppm
Mega Watts		
KSCF/hour		

Signature:

Kenneth

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 07:52:56 AM
Date: 09/22/20

Fuel
NGAS

O2	15.8 %
CO	0 ppm
Eff	75.1 %
CO2	2.9 %
T-Stk	280 °F
T-Air	69.1 °F
EA	250.0 %
CO (15)	0 ppm
NO	17 ppm
NO2	2 ppm
NOx	19 ppm
SO2	*** ppm
NO (15)	20 ppm
NO2 (15)	2 ppm
NOx (15)	22 ppm
SO2 (15)	*** ppm

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 07:41:14 AM
Date: 09/22/20

Fuel
NGAS

O2	3.4 %
CO	6 ppm
Eff	82.5 %
CO2	9.9 %
T-Stk	394 °F
T-Air	73.2 °F
EA	17.5 %
CO (15)	2 ppm
NO	55 ppm
NO2	1 ppm
NOx	57 ppm
SO2	*** ppm
NO (15)	19 ppm
NO2 (15)	1 ppm
NOx (15)	19 ppm
SO2 (15)	*** ppm

Date: 9/22/2020	BLR 2	BLR 4
Start Test	0726	
Recorded Test	0747	
O2	3.4 %	
CO	6 ppm	
Eff	82.5 %	
CO2	9.9 %	
T-Stk	394 °F	
T-Air	73.2 °F	
EA	17.5 %	
CO (15)	2 ppm	
NO	55 ppm	
NO2	1 ppm	
NOX	57 ppm	
SO2	*** ppm	
NO (15)	19 ppm	
NOX (15)	19 ppm	
SO2 (15)	*** ppm	
K lbs/hour		

Signature:

Kenneth

Comments:

9.2

Time: 04:22:06 PM
Date: 09/22/20

Fuel
Oil 2

O2	5.2 %
CO	0 ppm
Eff	81.3 %
CO2	11.7 %
T-STK	605 °F
T-AIR	100.0 °F
EA	30.7 %
CO (15)	0 ppm
NO	100 ppm
NO2	0 ppm
NOx	100 ppm
SO2	*** ppm
NO (15)	37 ppm
NO2 (15)	0 ppm
NOx (15)	38 ppm
SO2 (15)	*** ppm

Draft Reading
-1.40 inwc

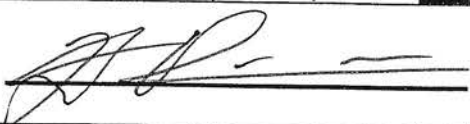
Comments:

BLR 4

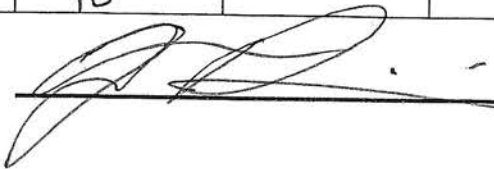
SHEET

EMISSION TEST COLLEGE PARK

Date: 09/28/20	GT 1 DB	GT 2 DB	
Start Test		1035	
Recorded Test		1040	
O2		15.2 %	
CO		4 PPM	
Eff		79.0 %	
CO2		3.2 %	
T-Stk		266 °F	
T-Air		91.0 °F	
EA		238.2 %	
CO (15)		4 PPM	
NO		16 PPM	
NO2		2 PPM	
NOX		18 PPM	
SO2		*** PPM	
NO (15)		17 PPM	
NOX (15)		19 PPM	
SO2 (15)		*** PPM	
Mega Watts		8.32	
KSCF/hour		54	

Signature: 

Date: 09/28/20	BLR 2	BLR 4	
Start Test	1017		
Recorded Test	1032		
O2	12.5 %		
CO	0 PPM		
Eff	82.7 %		
CO2	4.7 %		
T-Stk	257 °F		
T-Air	85.8 °F		
EA	132.9 %		
CO (15)	0 PPM		
NO	10 PPM		
NO2	1 PPM		
NOX	10 PPM		
SO2	*** PPM		
NO (15)	7 PPM		
NOX (15)	7 PPM		
SO2 (15)	*** PPM		
K lbs/hour	10		

Signature: 

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:40:03 AM
Date: 09/28/20

Fuel
NGAS

O2	15.2 %
CO	4 ppm
Eff	79.0 %
CO2	3.2 %
T-Stk	266 °F
T-Air	91.0 °F
EA	238.2 %
CO (15)	4 ppm
NO	16 ppm
NO2	2 ppm
NOx	18 ppm
SO2	*** ppm
NO (15)	17 ppm
NO2 (15)	2 ppm
NOx (15)	19 ppm
SO2 (15)	*** ppm

Comments:

MW: 8.32
KSCF/h: 54

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:32:07 AM
Date: 09/28/20

Fuel
NGAS

O2	12.5 %
CO	0 ppm
Eff	82.7 %
CO2	4.7 %
T-Stk	257 °F
T-Air	85.8 °F
EA	132.9 %
CO (15)	0 ppm
NO	10 ppm
NO2	1 ppm
NOx	10 ppm
SO2	*** ppm
NO (15)	7 ppm
NO2 (15)	0 ppm
NOx (15)	7 ppm
SO2 (15)	*** ppm

Comments:

Klbs/h: 10

RESULTS

RESULTS



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

January 15, 2021

Ms. Susan Nash
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director Air
Enforcement Branch (3AT20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Ms. Nash & Director:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of October 1, 2020 through December 31, 2020.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Phil Riggs, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

University of Maryland- Combined Heating and Power Plant Facility October 2020

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	382.90	0.00	42612.00	0.00		40,740,000	0	42,612	0	0.0213	0.0000	0.0213	2.5780	0.0000	2.5780	0.0639	0.0000	0.0639	0.1278	0.0000	0.1278	0.1044	0.0000	0.1044	0.1044	0.0000	0.1044
Turbine 2	743.20	0.00	93131.39	0.00		591,790,000	0	618,983	0	0.0931	0.0000	0.0931	6.0070	0.0000	6.0070	0.6519	0.0000	0.6519	0.2794	0.0000	0.2794	0.1676	0.0000	0.1676	0.1676	0.0000	0.1676
Duct Burner 1	0.00		0.00			0		0		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000	
Duct Burner 2	693.20		27194.70			204,251,000		213,636		0.0733		0.0733	0.1768		0.1768	0.1360		0.1360	0.0080		0.0080	0.0267		0.0267	0.0267		0.0267
Boiler 2	448.00	47.80	7982.69	5039.75						0.0009	0.0039	0.0048	0.4057	0.3074	0.7131	0.0022	0.0554	0.0576	0.0023	0.1112	0.1136	0.0358	0.1968	0.2327	0.0358	0.1968	0.2327
Boiler 4	0.00	0.00	1.05	0.00						0.0000	0.0000	0.0000	0.0001	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Emerg. Gen.		0.00		0.00	51.7						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Temporary Boiler	88.50	21.20	0.71	11849.00						0.0015	0.0033	0.0047	0.0133	0.0814	0.0948	0.0139	0.0305	0.0444	0.0002	0.0013	0.0015	0.0039	0.0794	0.0834	0.0039	0.0794	0.0834
Emissions Total										0.1902	0.0071	0.1973	9.1808	0.3888	9.5697	0.8679	0.0859	0.9538	0.4178	0.1125	0.5303	0.3385	0.2763	0.6147	0.3385	0.2763	0.6147

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.54	83.67	7.96	2.52	5.28	5.28
		OK	OK	OK	OK	OK	OK

University of Maryland- Combined Heating and Power Plant Facility December 2020

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
						scf/12-months	gal/12-months	mmbtu/12-months		tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	632.40	0.00	76553.08	0.00		196,220,000	0	205,236	0	0.0383	0.0000	0.0383	4.6315	0.0000	4.6315	0.1148	0.0000	0.1148	0.2297	0.0000	0.2297	0.1876	0.0000	0.1876	0.1876	0.0000	0.1876
Turbine 2	728.80	0.00	91353.27	0.00		765,060,000	0	800,215	0	0.0914	0.0000	0.0914	5.8923	0.0000	5.8923	0.6395	0.0000	0.6395	0.2741	0.0000	0.2741	0.1644	0.0000	0.1644	0.1644	0.0000	0.1644
Duct Burner 1	527.90		6976.49			6,670,000		6,976		0.0188		0.0188	0.0453		0.0453	0.0349		0.0349	0.0021		0.0021	0.0068		0.0068	0.0068		0.0068
Duct Burner 2	695.80		31681.83			261,121,000		273,120		0.0854		0.0854	0.2059		0.2059	0.1584		0.1584	0.0093		0.0093	0.0311		0.0311	0.0311		0.0311
Boiler 2	655.10	35.70	44251.01	2826.91						0.0052	0.0022	0.0074	2.2490	0.1724	2.4214	0.0122	0.0310	0.0433	0.0130	0.0624	0.0754	0.1987	0.1104	0.3091	0.1987	0.1104	0.3091
Boiler 4	87.60	35.70	1330.45	1975.98						0.0003	0.0013	0.0016	0.0682	0.1291	0.1973	0.0014	0.0301	0.0315	0.0004	0.0425	0.0429	0.0040	0.0682	0.0722	0.0040	0.0682	0.0722
Emerg. Gen.		0.00		0.00	51.7						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000
Temporary Boiler	50.40	33.00	0.49	4765.00						0.0010	0.0013	0.0023	0.0092	0.0328	0.0420	0.0096	0.0123	0.0219	0.0002	0.0005	0.0007	0.0027	0.0319	0.0347	0.0027	0.0319	0.0347
Emissions Total										0.2404	0.0048	0.2452	13.1014	0.3343	13.4357	0.9708	0.0734	1.0442	0.5286	0.1054	0.6340	0.5953	0.2105	0.8059	0.5953	0.2105	0.8059

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.93	94.50	9.50	3.59	5.34	5.34
		OK	OK	OK	OK	OK	OK

EMISSION TEST COLLEGE PARK ENERGY

Date: 10/05/2020	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		14:07		
Recorded Test		14:07		
O2		15.2%		
CO		4ppm		
Eff		77.0%		
CO2		3.2%		
T-Stk		287°F		
T-Air		80.5°F		
EA		234.8%		
CO (15)		4ppm		
NO		19ppm		
NO2		3ppm		
NOX		21ppm		
SO2		***		
NO (15)		19ppm		
NOX (15)		20ppm		
SO2 (15)		***		
Mega Watts		9.4 MW		
KSCF/hour		30		

Signature: 

Date: 10/05/2020	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	14:17			
Recorded Test	14:34			
O2	15.6%			
CO	2ppm			
Eff	99.7%			
CO2	3.0%			
T-Stk	74°F			
T-Air	81.0°F			
EA	250.0%			
CO (15)	2ppm			
NO	15ppm			
NO2	0ppm			
NOX	15ppm			
SO2	***			
NO (15)	16ppm			
NOX (15)	16ppm			
SO2 (15)	***			
K lbs/hour	10 KPPH			

Signature: 

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:34:07 PM
Date: 10/05/20

Temp Broken Fuel 10KPPH
NGAS

O ₂	15.6 %
CO	2 ppm
Eff	99.7 %
CO ₂	3.0 %
T-Stk	74 °F
T-Air	81.0 °F
EA	250.0 %
CO (15)	2 ppm
NO	15 ppm
NO ₂	0 ppm
NO _x	15 ppm
SO ₂	*** ppm
NO (15)	16 ppm
NO ₂ (15)	0 ppm
NO _x (15)	16 ppm
SO ₂ (15)	*** ppm

Comments:



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:07:06 PM
Date: 10/05/20

GT #2
W/DB 9.4 MW
Fuel 30
NGAS KSCFH

O ₂	15.2 %
CO	4 ppm
Eff	77.0 %
CO ₂	3.2 %
T-Stk	287 °F
T-Air	80.5 °F
EA	234.8 %
CO (15)	4 ppm
NO	19 ppm
NO ₂	3 ppm
NO _x	21 ppm
SO ₂	*** ppm
NO (15)	19 ppm
NO ₂ (15)	3 ppm
NO _x (15)	22 ppm
SO ₂ (15)	*** ppm

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date: 10/17/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test 11:26		11:26		
Recorded Test 11:32		11:32		
O2		14.0%		
CO		9ppm		
Eff		81.3%		
CO2		3.9%		
T-Stk		238°F		
T-Air		69.2°F		
EA		179.3%		
CO (15)		7ppm		
NO		19ppm		
NO2		4ppm		
NOX		23ppm		
SO2		***		
NO (15)		16ppm		
NOX (15)		20ppm		
SO2 (15)		***		
Mega Watts		88 MW		
KSCF/hour		62 KSCF		

Signature:



Date: 10/18/20	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	11:36			
Recorded Test	11:50			
O2	11.7%			
CO	19ppm			
Eff	81.1%			
CO2	5.2%			
T-Stk	298°F			
T-Air	78.3°F			
EA	113.3%			
CO (15)	12ppm			
NO	16ppm			
NO2	4ppm			
NOX	20ppm			
SO2	***			
NO (15)	10ppm			
NOX (15)	13ppm			
SO2 (15)	***			
K lbs/hour	20 Klbs			

Signature:



Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

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BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:32:43 AM
Date: 10/12/20

Fuel
NGAS

O₂ 14.0 %
CO 9 ppm
Eff 81.3 %
CO₂ 3.9 %
T-Stk 238 °F
T-Air 69.2 °F
EA 179.3 %
CO(15) 7 ppm
NO 19 ppm
NO₂ 4 ppm
NO_x 23 ppm
SO₂ ppm
NO(15) 16 ppm
NO₂(15) 3 ppm
NO_x(15) 20 ppm
SO₂(15) ppm

Comments: 88 MW
67 KSCF/Hour



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:52:37 AM
Date: 10/12/20

Fuel
NGAS

O₂ 11.7 %
CO 19 ppm
Eff 81.1 %
CO₂ 5.2 %
T-Stk 298 °F
T-Air 78.3 °F
EA 113.3 %
CO(15) 12 ppm
NO 18 ppm
NO₂ 4 ppm
NO_x 20 ppm
SO₂ ppm
NO(15) ppm
NO₂(15) 3 ppm
NO_x(15) 13 ppm
SO₂(15) ppm

Comments: 20 Klbs/Hour

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BACHARACH, INC.
PCA 3
SN: TP1006

GT#7 DB

Time: 09:15:22 AM
Date: 10/19/20

Fuel
NGAS

O ₂	13.5 %
CO	7 ppm
Eff	76.4 %
CO ₂	4.2 %
T-Stk	350 °F
T-Air	79.5 °F
EA	161.9 %
CO(15)	5 ppm
NO	21 ppm
NO ₂	2 ppm
NO _x	23 ppm
SO ₂	*** ppm
NO(15)	16 ppm
NO ₂ (15)	2 ppm
NO _x (15)	18 ppm
SO ₂ (15)	*** ppm

Comments:



BACHARACH, INC.
PCA 3
SN: TP1006

Boiler #2

Time: 09:00:38 AM
Date: 10/19/20

Fuel
NGAS

O ₂	12.4 %
CO	1 ppm
Eff	81.5 %
CO ₂	4.8 %
T-Stk	279 °F
T-Air	80.2 °F
EA	130.0 %
CO(15)	1 ppm
NO	32 ppm
NO ₂	2 ppm
NO _x	33 ppm
SO ₂	*** ppm
NO(15)	22 ppm
NO ₂ (15)	1 ppm
NO _x (15)	23 ppm
SO ₂ (15)	*** ppm

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date: 10/19/2020	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0	09:10		
Recorded Test		09:15		
O2		13.5%		
CO		7ppm		
Eff		76.4%		
CO2		4.2%		
T-Stk		350°F		
T-Air		79.5°F		
EA		161.9%		
CO (15)		5ppm		
NO		31ppm		
NO2		2ppm		
NOX		23ppm		
SO2		***		
NO (15)		16ppm		
NOX (15)		18ppm		
SO2 (15)		***		
Mega Watts		8.32		
KSCF/hour		84 KSCF/H		

Signature:



Date: 10/19/2020	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	08:54			
Recorded Test	09:00			
O2	12.4%			
CO	1ppm			
Eff	81.5%			
CO2	4.8%			
T-Stk	279°F			
T-Air	80.2°F			
EA	130.0%			
CO (15)	1ppm			
NO	33ppm			
NO2	2ppm			
NOX	33ppm			
SO2	***			
NO (15)	22ppm			
NOX (15)	23ppm			
SO2 (15)	***			
K lbs/hour	11 K lbs/H			

Signature:



GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 10/26/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			17:35	
Recorded Test			17:40	
O2			15.6%	
CO			0ppm	
Eff			68.1%	
CO2			3.0%	
T-Stk			403°F	
T-Air			91.6°F	
EA			250%	
CO (15)			0ppm	
NO			16ppm	
NO2			2ppm	
NOX			18ppm	
SO2			***	
NO (15)			18ppm	
NOX (15)			20ppm	
SO2 (15)			***	
Mega Watts	7		8.8	
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RE
Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RE

EMISSION TEST COLLEGE PARK ENERGY

Date: 10/26/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		17:05		
Recorded Test		17:10		
O2		15.8%		
CO		1.9ppm		
Eff		70.0%		
CO2		2.9%		
T-Stk		373°F		
T-Air		94.8°F		
EA		250.0%		
CO (15)		1ppm		
NO		14ppm		
NO2		3ppm		
NOX		16ppm		
SO2		***		
NO (15)		16ppm		
NOX (15)		19ppm		
SO2 (15)		***		
Mega Watts		8.7		
KSCF/hour		18		

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST R
Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST R

Comments:

EMISSION TEST COLLEGE PARK ENERGY

1" 11" 2"



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:38:40 PM
Date: 10/20/20

Fuel
NGAS

O ₂	15.6 %
CO	1 ppm
Eff	28.5 %
CO ₂	3.0 %
T-Stk	960 °F
T-Air	102.1 °F
EA	250.0 %
CO (15)	1 ppm
NO	20 ppm
NO ₂	0 ppm
NOx	20 ppm
SO ₂	*** ppm
NO (15)	22 ppm
NO ₂ (15)	0 ppm
NOx (15)	22 ppm
SO ₂ (15)	*** ppm

Date: 10/20/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			0534	
Recorded Test			0538	
O ₂			15.6 %	
CO			1 ppm	
Eff			28.5 %	
CO ₂			3.0 %	
T-Stk			960 °F	
T-Air			102.1 °F	
EA			250.0 %	
CO (15)			1 ppm	
NO			20 ppm	
NO ₂			0 ppm	
NOX			20 ppm	
SO ₂			*** ppm	
NO (15)			22 ppm	
NOX (15)			22 ppm	
SO ₂ (15)			*** ppm	
Mega Watts			8.6	
KSCF/hour				

Signature:

Kenneth Wile

Comments:

GT1-8.6m
OAT-720

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O ₂				
CO				
Eff				
CO ₂				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO ₂				
NOX				
SO ₂				
NO (15)				
NOX (15)				
SO ₂ (15)				
K lbs/hour				

Signature:

AND THEN PRINT TEST RESULTS

AND THEN PRINT TEST RESULTS

THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

BACHARACH

BACHARACH, INC.

PCA 3

SN: TP1006

GT 1

Time: 05:56:33 AM

Date: 10/21/20

Fuel

NGAS

O ₂	15.4 %
CO	0 ppm
Eff	30.1 %
CO ₂	3.1 %
T-Stk	960 °F
T-Air	91.1 °F
EA	248.4 %
CO (15)	0 ppm
NO	21 ppm
NO ₂	0 ppm
NO _x	22 ppm
SO ₂	*** ppm
NO (15)	23 ppm
NO ₂ (15)	0 ppm
NO _x (15)	23 ppm
SO ₂ (15)	*** ppm

Date: 10/21/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			0551	
Recorded Test			0556	
O2			15.4 %	
CO			0 PPM	
Eff			30.1 %	
CO2			3.1 %	
T-Stk			960 °F	
T-Air			91.1 °F	
EA			248.4 %	
CO (15)			0 PPM	
NO			21 PPM	
NO2			0 PPM	
NOX			22 PPM	
SO2			*** PPM	
NO (15)			23 PPM	
NOX (15)			23 PPM	
SO2 (15)			*** PPM	
Mega Watts			9.3	
KSCF/hour				

Signature:

Kenich W. D.

Comments:

MW 9.3

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

PRINT TEST RESULTS

PRINT TEST RESULTS

TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 10/21/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			0559	
Recorded Test			0603	
O2			15.6 %	
CO			0 PPM	
Eff			28.7 %	
CO2			3.0 %	
T-Stk			955 °F	
T-Air			103.8 °F	
EA			250.0 %	
CO (15)			0 PPM	
NO			16 PPM	
NO2			0 PPM	
NOX			16 PPM	
SO2			*** PPM	
NO (15)			18 PPM	
NOX (15)			18 PPM	
SO2 (15)			*** PPM	
Mega Watts			8.5	
KSCF/hour				



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 06:03:45 PM
Date: 10/21/20

Fuel
NGAS

O ₂	15.6 %
CO	0 ppm
Eff	28.7 %
CO ₂	3.0 %
T-Stk	955 °F
T-Air	103.8 °F
EA	250.0 %
CO (15)	0 ppm
NO	16 ppm
NO ₂	0 ppm
NOx	16 ppm
SO ₂	*** ppm
NO (15)	18 ppm
NO ₂ (15)	0 ppm
NOx (15)	18 ppm
SO ₂ (15)	*** ppm

Signature:

Kenneth W. [Signature]

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

Comments:

MW = 8.5
OAT = 78°

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

SHEET

EMISSION TEST COLLEGE PARK ENERGY



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 06:00:34 AM
Date: 10/22/20

Fuel
NGAS

O ₂	15.5 %
CO	0 ppm
Eff	28.3 %
CO ₂	3.0 %
T-Stk	963 °F
T-Air	92.0 °F
EA	250.0 %
CO (15)	0 ppm
NO	21 ppm
NO ₂	0 ppm
NO _x	21 ppm
SO ₂	*** ppm
NO (15)	23 ppm
NO ₂ (15)	0 ppm
NO _x (15)	23 ppm
SO ₂ (15)	*** ppm

Date: 10/22/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			0555	
Recorded Test			0600	
O ₂			15.5 %	
CO			0 ppm	
Eff			28.3 %	
CO ₂			3.0 %	
T-Stk			963 °F	
T-Air			92.0 °F	
EA			250.0 %	
CO (15)			0 ppm	
NO			21 ppm	
NO ₂			0 ppm	
NO _x			21 ppm	
SO ₂			*** ppm	
NO (15)			23 ppm	
NO _x (15)			23 ppm	
SO ₂ (15)			*** ppm	
Mega Watts			9.2	
KSCF/hour				

Signature:

Kenneth Will

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O ₂				
CO				
Eff				
CO ₂				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO ₂				
NO _x				
SO ₂				
NO (15)				
NO _x (15)				
SO ₂ (15)				
K lbs/hour				

Signature:

Comments:

GT#1
SIMPLE CYCLE
9.2 MW 61°F

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

SHEET

EMISSION TEST COLLEGE PARK ENERGY



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:17:22 PM
Date: 10/22/20

Fuel
NGAS

O ₂	15.7 %
CO	0 ppm
Eff	70.1 %
CO ₂	2.9 %
T-Stk	391 °F
T-Air	110.3 °F
EA	250.0 %
CO (15)	0 ppm
NO	12 ppm
NO ₂	1 ppm
NOx	13 ppm
SO ₂	*** ppm
NO (15)	14 ppm
NO ₂ (15)	1 ppm
NOx (15)	15 ppm
SO ₂ (15)	*** ppm

Comments:

NO DUCT #1 65
#2 6 8.2 M.W

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

SHEET

Date: 10/22/2020	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			1710	
Recorded Test			1717	
O2			15.7 %	
CO			0 ppm	
Eff			70.1 %	
CO2			2.9 %	
T-Stk			391 °F	
T-Air			110.3 °F	
EA			250 %	
CO (15)			0 ppm	
NO			12 ppm	
NO2			1 ppm	
NOX			13 ppm	
SO2			XXX	
NO (15)			14 ppm	
NOX (15)			15 ppm	
SO2 (15)			XXX	
Mega Watts			8.2	
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

EMISSION TEST COLLEGE PARK ENERGY



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:55:46 AM
Date: 10/23/20

Fuel
NGAS

O ₂	15.7 %
CO	0 ppm
Eff	69.9 %
CO ₂	3.0 %
T-Stk	382 °F
T-Air	96.5 °F
EA	250.0 %
CO (15)	0 ppm
NO	13 ppm
NO ₂	2 ppm
NO _x	15 ppm
SO ₂	*** ppm
NO (15)	15 ppm
NO ₂ (15)	2 ppm
NO _x (15)	17 ppm
SO ₂ (15)	*** ppm

Comments: GT#1 COMBINE
CYCLE 8.9 MW

THEN PRINT TEST RESULTS

SHEET

WASTE WATER (WWT), TAIL IS MINUTES AND THEN PRINT TEST RESULTS

Date: 10/23/2020	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			0550	
Recorded Test			0555	
O2			15.7%	
CO			0PPM	
Eff			69.9%	
CO2			3%	
T-Stk			382°F	
T-Air			96.5°F	
EA			250%	
CO (15)			0PPM	
NO			13PPM	
NO2			2PPM	
NOX			15PPM	
SO2			***	
NO (15)			15PPM	
NOX (15)			17PPM	
SO2 (15)			***	
Mega Watts			8.9 MW	
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

EMISSION TEST COLLEGE PARK ENERGY

Date: 10/23/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			1734	
Recorded Test			1738	
O2			15.8%	
CO			0 ppm	
Eff			68.8%	
CO2			2.9%	
T-Stk			397°F	
T-Air			102.6°F	
EA			250	
CO (15)			0 ppm	
NO			12 ppm	
NO2			2 ppm	
NOX			14 ppm	
SO2			14	
NO (15)			14 ppm	
NOX (15)			16 ppm	
SO2 (15)			16	
Mega Watts			8.2	
KSCF/hour				

Signature: _____

[Handwritten Signature]

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

n(D)Ira}^a=

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:38:16 PM
Date: 10/23/20

Fuel
NGAS

O2	15.8 %
CO	0 ppm
Eff	68.8 %
CO2	2.9 %
T-Stk	397 °F
T-Air	102.6 °F
EA	250.0 %
CO (15)	0 ppm
NO	12 ppm
NO2	2 ppm
NOx	14 ppm
SO2	14 ppm
NO (15)	14 ppm
NO2 (15)	2 ppm
NOx (15)	16 ppm
SO2 (15)	16 ppm

Comments

MW=8.2
OAT=73°

TEST RESULTS

TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

GT #1



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:52:04 AM
Date: 10/24/20

Fuel
NGAS

O ₂	18.0 %
CO	0 ppm
Eff	---
CO ₂	---
T-Stk	533 °F
T-Air	85.8 °F
EA	---
CO (15)	---
NO	6 ppm
NO ₂	1 ppm
NOx	7 ppm
SO ₂	*** ppm
NO (15)	---
NO ₂ (15)	---
NOx (15)	---
SO ₂ (15)	*** ppm

Comments: 8.66 MW

IN PRINT TEST RESULTS

N PRINT TEST RESULTS

ET

Date: 10/24/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			0547	
Recorded Test			0552	
O ₂			18.0 %	
CO			0 ppm	
Eff			---	
CO ₂			---	
T-Stk			533 °F	
T-Air			85.8 °F	
EA			---	
CO (15)			---	
NO			6 ppm	
NO ₂			1 ppm	
NOX			7 ppm	
SO ₂			*** ppm	
NO (15)			---	
NOX (15)		21.7	---	
SO ₂ (15)			*** ppm	
Mega Watts			8.66	
KSCF/hour				

Signature:

Kenneth

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O ₂				
CO				
Eff				
CO ₂				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO ₂				
NOX				
SO ₂				
NO (15)				
NOX (15)				
SO ₂ (15)				
K lbs/hour				

Signature:

EMISSION TEST COLLEGE PARK ENERGY

Date: 10/24/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			1731	
Recorded Test			0734	
O2			15.7 %	
CO			0 ppm	
Eff			72.5 %	
CO2			2.9 %	
T-Stk			346 °F	
T-Air			98.1 °F	
EA			250.0 %	
CO (15)			0 ppm	
NO			12 ppm	
NO2			3 ppm	
NOX			14 ppm	
SO2			***	
NO (15)			13 ppm	
NOX (15)			16 ppm	
SO2 (15)			***	
Mega Watts			8.4	
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:34:44 PM
Date: 10/24/20

Fuel
NGAS

O2	15.7 %
CO	0 ppm
Eff	72.5 %
CO2	2.9 %
T-Stk	346 °F
T-Air	98.1 °F
EA	250.0 %
CO (15)	0 ppm
NO	12 ppm
NO2	3 ppm
NOx	14 ppm
SO2	*** ppm
NO (15)	13 ppm
NO2 (15)	3 ppm
NOx (15)	16 ppm
SO2 (15)	*** ppm

Comments:

MW = 8.4
DAT = 70°

EN PRINT TEST RESULTS

HEN PRINT TEST RESULTS

EET

EMISSION TEST COLLEGE PARK ENERGY

Date: 10/25/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			0533	
Recorded Test			0537	
O2			16.8%	
CO			0 ppm	
Eff			--- %	
CO2			--- %	
T-Stk			562 °F	
T-Air			95.8 °F	
EA			--- %	
CO (15)			--- ppm	
NO			17 ppm	
NO2			2 ppm	
NOX			18 ppm	
SO2			*** ppm	
NO (15)			--- ppm	
NOX (15)			25.9 ppm	
SO2 (15)			*** ppm	
Mega Watts			8.51	
KSCF/hour				

Signature:

Kenneth

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

GT 1



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:37:56 AM
Date: 10/25/20

Fuel
NGAS

O2	16.8 %
CO	0 ppm
Eff	--- %
CO2	--- %
T-Stk	562 °F
T-Air	95.8 °F
EA	--- %
CO (15)	--- ppm
NO	17 ppm
NO2	2 ppm
NOx	18 ppm
SO2	*** ppm
NO (15)	--- ppm
NO2 (15)	--- ppm
NOx (15)	--- ppm
SO2 (15)	*** ppm

Comments:

MW: 8.51

PRINT TEST RESULTS

PRINT TEST RESULTS

3ET

EMISSION TEST COLLEGE PARK ENERGY

Date: 10/25/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			1722	
Recorded Test			1725	
O2			15.6%	
CO			0 ppm	
Eff			69.3%	
CO2			3.0%	
T-Stk			380.0°F	
T-Air			80.9°F	
EA			250.0%	
CO (15)			0 ppm	
NO			21 ppm	
NO2			4 ppm	
NOX			24 ppm	
SO2			23 ppm	
NO (15)			23 ppm	
NOX (15)			27 ppm	
SO2 (15)			27 ppm	
Mega Watts			9.45	
KSCF/hour				

Signature: _____

D. Green

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:25:44 PM
Date: 10/25/20

Fuel
NGAS

#1GT
9.54 MW

O2	15.6 %
CO	0 ppm
Eff	69.3 %
CO2	3.0 %
T-Stk	380 °F
T-Air	80.9 °F
EA	250.0 %
CO (15)	0 ppm
NO	21 ppm
NO2	4 ppm
NOx	24 ppm
SO2	23 ppm
NO (15)	23 ppm
NO2 (15)	4 ppm
NOx (15)	27 ppm
SO2 (15)	27 ppm

Comments: _____

EN PRINT TEST RESULTS

N PRINT TEST RESULTS

ET

EMISSION TEST COLLEGE PARK ENERGY

Date: 10/26/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			0530	
Recorded Test			0534	
O2			16.4 %	
CO			0 ppm	
Eff			--- %	
CO2			--- %	
T-Stk			585 °F	
T-Air			76.0 °F	
EA			--- %	
CO (15)			--- ppm	
NO			19 ppm	
NO2			0 ppm	
NOX			19 ppm	
SO2			*** ppm	
NO (15)			--- ppm	
NOX (15)			21.5 ppm	
SO2 (15)			--- ppm	
Mega Watts			9.4	
KSCF/hour				

Time: 05:34:21 AM

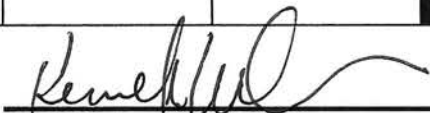
Date: 10/26/20

Fuel
NGAS

O2:	16.4 %
CO	0 ppm
Eff	--- %
CO2	--- %
T-Stk	585 °F
T-Air	76.0 °F
EA	--- %
CO (15)	--- ppm
NO	19 ppm
NO2	0 ppm
NOx	19 ppm
SO2	*** ppm
NO (15)	--- ppm
NO2 (15)	--- ppm
NOx (15)	--- ppm
SO2 (15)	*** ppm

Comments:

MW: 9.4

Signature: 

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

MINUTES AND THEN PRINT TEST RESULTS

MINUTES AND THEN PRINT TEST RESULTS

FORM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:40:55 PM
Date: 10/26/20

Fuel
NGAS

O ₂	15.6 %
CO	0 ppm
Eff	68.1 %
CO ₂	3.0 %
T-Stk	403 °F
T-Air	91.6 °F
EA	250.0 %
CO (15)	0 ppm
NO	16 ppm
NO ₂	2 ppm
NOx	18 ppm
SO ₂	ppm
NO (15)	18 ppm
NO ₂ (15)	2 ppm
NOx (15)	20 ppm
SO ₂ (15)	ppm

Comments:

NW=8.8
OAT=62°

ID THEN PRINT TEST RESULTS

) THEN PRINT TEST RESULTS

S SHEET

Date: 10/26/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			1737	
Recorded Test			1740	
O ₂			15.6 %	
CO			0 ppm	
Eff			68.1 %	
CO ₂			3.0 %	
T-Stk			403 °F	
T-Air			91.6 °F	
EA			250.0 %	
CO (15)			0 ppm	
NO			16 ppm	
NO ₂			2 ppm	
NOX			18 ppm	
SO ₂			ppm	
NO (15)			18 ppm	
NOX (15)			20 ppm	
SO ₂ (15)			ppm	
Mega Watts			8.8	
KSCF/hour				

Signature:

[Signature]

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O ₂				
CO				
Eff				
CO ₂				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO ₂				
NOX				
SO ₂				
NO (15)				
NOX (15)				
SO ₂ (15)				
K lbs/hour				

Signature:

EMISSION TEST COLLEGE PARK ENERGY

Date: 10/27/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			0520	
Recorded Test			0524	
O2			15.9 %	
CO			0 ppm	
Eff			51.8 %	
CO2			2.8 %	
T-Stk			609 °F	
T-Air			97.6 °F	
EA			250.0 %	
CO (15)			0 ppm	
NO			16 ppm	
NO2			1 ppm	
NOX			17 ppm	
SO2			*** ppm	
NO (15)			19 ppm	
NOX (15)			20 ppm	
SO2 (15)			*** ppm	
Mega Watts			8.99	
KSCF/hour				

Signature:

Kenneth Will

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

L_α

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

GT #1

Time: 05:24:33 AM
Date: 10/27/20

Fuel
NGAS

O ₂	15.9 %
CO	0 ppm
Eff	51.8 %
CO ₂	2.8 %
T-Stk	609 °F
T-Air	97.6 °F
EA	250.0 %
CO (15)	0 ppm
NO	16 ppm
NO ₂	1 ppm
NOx	17 ppm
SO ₂	*** ppm
NO (15)	19 ppm
NO ₂ (15)	1 ppm
NOx (15)	20 ppm
SO ₂ (15)	*** ppm

Comments:

MW - 9.01
8.99

AND THEN PRINT TEST RESULTS

AND THEN PRINT TEST RESULTS

THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 11/2/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		12251325	12181318	
Recorded Test		12301330	12231323	
O2		13.4%	16.1%	
CO		4 ppm	0 ppm	
Eff		75.4%	---	
CO2		4.2%	---	
T-Stk		349 °F	385 °F	
T-Air		58.5 °F	61.5 °F	
EA		160.6%	---	
CO (15)		3 ppm	---	
NO		27 ppm	21 ppm	
NO2		4 ppm	5 ppm	
NOX		31 ppm	26 ppm	
SO2		*** ppm	*** ppm	
NO (15)		22 ppm	---	
NOX (15)		24 ppm	31.95 ppm	
SO2 (15)		*** ppm	*** ppm	
Mega Watts		9.4	9.4	
KSCF/hour		41		

Signature: Evelyn Carter

Date: 11/2/20	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	13031403			
Recorded Test	13181418			
O2	11.8%			
CO	7 ppm			
Eff	80.9%			
CO2	5.2%			
T-Stk	293 °F			
T-Air	69.6 °F			
EA	114.7%			
CO (15)	5 ppm			
NO	31 ppm			
NO2	8 ppm			
NOX	39 ppm			
SO2	*** ppm			
NO (15)	20 ppm			
NOX (15)	25 ppm			
SO2 (15)	*** ppm			
K lbs/hour	18			

Signature: Evelyn Carter

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

#1 GT
NO DUCT BURNER

BACHARACH
BACHARACH, INC.
PCA 2
SN: RP1001

Time: 01:23:16 PM
Date: 11/02/20

Fuel
NGAS

O ₂	16.1 %
CO	0 ppm
Eff	---
CO ₂	---
T-STK	385 °F
T-AIR	61.5 °F
EA	---
CO(15)	---
NO	21 ppm
NO ₂	5 ppm
NO _x	26 ppm
SO ₂	*** ppm
NO(15)	---
NO ₂ (15)	---
NO _x (15)	---
SO ₂ (15)	*** ppm

Draft Reading
-0.43 inwc

Comments: 44

9.4

#2 GT
WITH DUCT BURNER

BACHARACH
BACHARACH, INC.
PCA 2
SN: RP1001

Time: 01:30:20 PM
Date: 11/02/20

Fuel
NGAS

O ₂	13.4 %
CO	4 ppm
Eff	75.4 %
CO ₂	4.2 %
T-STK	349 °F
T-AIR	58.5 °F
EA	160.6 %
CO(15)	3 ppm
NO	27 ppm
NO ₂	4 ppm
NO _x	31 ppm
SO ₂	*** ppm
NO(15)	22 ppm
NO ₂ (15)	3 ppm
NO _x (15)	24 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.67 inwc

Comments:

41

9.4

BOILER #2

BACHARACH
BACHARACH, INC.
PCA 2
SN: RP1001

Time: 02:18:02 PM
Date: 11/02/20

Fuel
NGAS

O ₂	11.8 %
CO	7 ppm
Eff	80.9 %
CO ₂	5.2 %
T-STK	293 °F
T-AIR	69.6 °F
EA	114.7 %
CO(15)	5 ppm
NO	31 ppm
NO ₂	8 ppm
NO _x	39 ppm
SO ₂	*** ppm
NO(15)	20 ppm
NO ₂ (15)	5 ppm
NO _x (15)	25 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.94 inwc

Comments:

430
18,000

EMISSION TEST COLLEGE PARK ENEL

Date: 11/09/2020	GT 1 DB	GT 2 DB	GT1
Start Test		1109	1103
Recorded Test		1112	1107
O2		15.7 %	16.6 %
CO		7 Ppm	0 Ppm
Eff		77.2 %	--- %
CO2		2.9 %	--- %
T-Stk		262 °F	328 °F
T-Air		77.0 °F	75.2 °F
EA		250.0 %	--- %
CO (15)		8 Ppm	--- Ppm
NO		13 Ppm	13 Ppm
NO2		4 Ppm	2 Ppm
NOX		17 Ppm	15 Ppm
SO2		*** Ppm	*** Ppm
NO (15)		15 Ppm	--- Ppm
NOX (15)		19 Ppm	20.5 Ppm
SO2 (15)		*** Ppm	*** Ppm
Mega Watts		8.6	8.6
KSCF/hour		8 + 36	

Signature: Kenneth Will

Date:	BLR 2	BLR 4	BLR 2
Start Test			
Recorded Test			
O2			
CO			
Eff			
CO2			
T-Stk			
T-Air			
EA			
CO (15)			
NO			
NO2			
NOX			
SO2			
NO (15)			
NOX (15)			
SO2 (15)			
K lbs/hour			

Signature: _____

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:07:15 AM
Date: 11/09/20

Fuel
NGAS

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 12:25 AM
Date: 11/09/20

Fuel
NGAS

O2	16.6 %	15.7 %
CO	0 ppm	7 ppm
Eff	--- %	77.2 %
CO2	--- %	2.9 %
T-Stk	328 °F	262 °F
T-Air	75.2 °F	77.0 °F
EA	--- %	250.0 %
CO (15)	--- ppm	8 ppm
NO	13 ppm	13 ppm
NO2	2 ppm	4 ppm
NOx	15 ppm	17 ppm
SO2	*** ppm	*** ppm
NO (15)	--- ppm	15 ppm
NO2 (15)	--- ppm	5 ppm
NOx (15)	--- ppm	19 ppm
SO2 (15)	*** ppm	*** ppm

Comments:

8.6

8.6

TES AND THEN PRINT TEST RESULTS

TES AND THEN PRINT TEST RESULTS

TO THIS SHEET

EMISSION TEST COLLEGE PARK ENVI

Date: 11/16/20	GT 1 DB	GT 2 DB	GT1
Start Test		1644	1638
Recorded Test		1647	1641
O2		15.8 %	16.7 %
CO		7 PPM	1 PPM
Eff		74.7 %	--- %
CO2		2.9 %	--- %
T-Stk		290 °F	318 °F
T-Air		73.7 °F	74.5 °F
EA		250.0 %	--- %
CO (15)		5 PPM	--- PPM
NO		17 PPM	15 PPM
NO2		5 PPM	3 PPM
NOX		22 PPM	18 PPM
SO2		*** PPM	*** PPM
NO (15)		19 PPM	--- PPM
NOX (15)		15 PPM	25 PPM
SO2 (15)		*** PPM	*** PPM
Mega Watts		8.8	8.6
KSCF/hour		28	

Signature:

Kenneth Williams

Date:	BLR 2	BLR 4	BLR 2
Start Test			
Recorded Test			
O2			
CO			
Eff			
CO2			
T-Stk			
T-Air			
EA			
CO (15)			
NO			
NO2			
NOX			
SO2			
NO (15)			
NOX (15)			
SO2 (15)			
K lbs/hour			

Signature:

GT #7

#2

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 04:41:37 PM
Date: 11/16/20

Fuel
NGAS

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 04:47:33 PM
Date: 11/16/20

Fuel
NGAS

O2:	16.7 %	15.8 %
CO:	1 ppm	7 ppm
EFF:	--- %	74.7 %
CO2:	--- %	2.9 %
T-Stk:	318 °F	290 °F
T-Air:	74.5 °F	73.7 °F
EA:	--- %	250.0 %
CO (15):	--- ppm	8 ppm
NO:	15 ppm	17 ppm
NO2:	3 ppm	5 ppm
NOx:	18 ppm	22 ppm
SO2:	*** ppm	*** ppm
NO (15):	--- ppm	19 ppm
NO2 (15):	--- ppm	6 ppm
NOx (15):	--- ppm	25 ppm
SO2 (15):	*** ppm	*** ppm

Comments:

mw: 8.6

8.8

28

ID THEN PRINT TEST RESULTS

) THEN PRINT TEST RESULTS

S SHEET

EMISSION TEST COLLEGE PARK ENEF

Date:	GT 1 DB	GT 2 DB	GT1
Start Test		1051	1046
Recorded Test		1054	1049
O2		14.7 %	16.9 %
CO		4 PPM	0 PPM
Eff		78.8 %	--- %
CO2		3.5 %	--- %
T-Stk		252 °F	290 °F
T-Air		60.6 °F	69.4 °F
EA		213.1 %	--- %
CO (15)		4 PPM	--- PPM
NO		20 PPM	14 PPM
NO2		3 PPM	3 PPM
NOX		23 PPM	17 PPM
SO2		*** PPM	*** PPM
NO (15)		19 PPM	--- PPM
NOX (15)		22 PPM	26 PPM
SO2 (15)		*** PPM	*** PPM
Mega Watts		8.8	8.6
KSCF/hour		40	

Signature: Kenneth Hill

Date:	BLR 2	BLR 4	BLR 2
Start Test			
Recorded Test			
O2			
CO			
Eff			
CO2			
T-Stk			
T-Air			
EA			
CO (15)			
NO			
NO2			
NOX			
SO2			
NO (15)			
NOX (15)			
SO2 (15)			
K lbs/hour			

Signature: _____

GT # 7

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:49:24 AM
Date: 11/23/20

Fuel
NGAS

O2 16.9 %
CO 0 ppm
Eff --- %
CO2 --- %
T-Stk 290 °F
T-Air 69.4 °F
EA --- %
CO (15) --- ppm
NO 14 ppm
NO2 3 ppm
NOx 17 ppm
SO2 *** ppm
NO (15) --- ppm
NO2 (15) --- ppm
NOx (15) --- ppm
SO2 (15) *** ppm

Comments:

MW: 8.6

RINT TEST RESULTS

RINT TEST RESULTS

S SHEET

T # 2 DB

BACHARACH

ACHARACH, INC.
PCA 3
SN: TP1006

0:54:28 AM
1/23/20

Fuel
NGAS

14.7 %
4 ppm
78.8 %
3.5 %
252 °F
60.6 °F
213.1 %
4 ppm
20 ppm
3 ppm
23 ppm
*** ppm
19 ppm
3 ppm
22 ppm
*** ppm

8.8
40

EMISSION TEST COLLEGE PARK ENERGY

Date: 11/30/2020	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1840	1848	
Recorded Test		1847	1850	
O2		14.1%	16.6%	
CO		6ppm	0ppm	
Eff		81.2%	—	
CO2		3.8%	—	
T-Stk		238°F	291°F	
T-Air		70.6°F	70.7°F	
EA		185.9%	—	
CO (15)		5ppm	—	
NO		19ppm	12ppm	
NO2		4ppm	3ppm	
NOX		23ppm	15ppm	
SO2		***	***	
NO (15)		17ppm	—	
NOX (15)		20ppm	* 20.58ppm *	
SO2 (15)		***	—	
Mega Watts		8.76	8.45	
KSCF/hour		42 KSCFH		

Signature: _____

NOX15 was calculated due to O2 NOT BEING below 16%.

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 06:47:55 PM
Date: 11/30/20

GT#2
8.76 MW Fuel
NGAS

O ₂	14.1 %
CO	6 ppm
Eff	81.2 %
CO ₂	3.8 %
T-Stk	238 °F
T-Air	70.6 °F
EA	185.9 %
CO (15)	5 ppm
NO	19 ppm
NO ₂	4 ppm
NO _x	23 ppm
SO ₂	*** ppm
NO (15)	17 ppm
NO ₂ (15)	3 ppm
NO _x (15)	20 ppm
SO ₂ (15)	*** ppm

Comments:

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 06:50:59 PM
Date: 11/30/20

GT#1
8.45 MW Fuel
NGAS

O ₂	16.6 %
CO	0 ppm
Eff	--- %
CO ₂	--- %
T-Stk	291 °F
T-Air	70.7 °F
EA	--- %
CO (15)	--- ppm
NO	12 ppm
NO ₂	3 ppm
NO _x	15 ppm
SO ₂	*** ppm
NO (15)	--- ppm
NO ₂ (15)	--- ppm
NO _x (15)	--- ppm
SO ₂ (15)	*** ppm

Comments: NO_x 15 = 20.58 ppm



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:54:50 AM GTDB
Date: 12/07/20

Fuel
NGAS

O ₂	13.0 %
CO	10 ppm
Eff	76.2 %
CO ₂	4.5 %
T-Stk	344 °F
T-Air	53.1 °F
EA	146.2 %
CO(15)	7 ppm
NO	27 ppm
NO ₂	5 ppm
NO _x	32 ppm
SO ₂	*** ppm
NO(15)	20 ppm
NO ₂ (15)	4 ppm
NO _x (15)	24 ppm
SO ₂ (15)	*** ppm

Comments:



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 12:16:37 PM BLR3
Date: 12/07/20

Fuel
NGAS

O ₂	3.2 %
CO	18 ppm
Eff	81.6 %
CO ₂	10.0 %
T-Stk	419 °F
T-Air	60.8 °F
EA	16.0 %
CO(15)	6 ppm
NO	62 ppm
NO ₂	1 ppm
NO _x	64 ppm
SO ₂	*** ppm
NO(15)	21 ppm
NO ₂ (15)	0 ppm
NO _x (15)	21 ppm
SO ₂ (15)	*** ppm

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date: 12/07/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		11:49		
Recorded Test		11:54		
O2		13%		
CO		10 ppm		
Eff		76.7%		
CO2		4.5%		
T-Stk		344°F		
T-Air		53.1°F		
EA		146.7%		
CO (15)		7 ppm		
NO		27 ppm		
NO2		5 ppm		
NOX		32 ppm		
SO2		***		
NO (15)		20 ppm		
NOX (15)		24 ppm		
SO2 (15)		***		
Mega Watts		10		
KSCF/hour		59		

Signature:



Date: 12/07/20	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	12:00			
Recorded Test	12:16			
O2	3.2%			
CO	18 ppm			
Eff	81.6%			
CO2	10.0%			
T-Stk	419°F			
T-Air	60.8°F			
EA	16.0%			
CO (15)	6 ppm			
NO	62 ppm			
NO2	1 ppm			
NOX	64 ppm			
SO2	***			
NO (15)	21 ppm			
NOX (15)	21 ppm			
SO2 (15)	***			
K lbs/hour	74			

Signature:



Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 12/14/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1931	1934		
Recorded Test	1934	1936		
O2	15.7%	15.5%		
CO	2ppm	5ppm		
Eff	77.2%	78.5%		
CO2	3.0%	3.1%		
T-Stk	257°F	244°F		
T-Air	70.7°F	68.9°F		
EA	250%	250%		
CO (15)	3ppm	6ppm		
NO	19ppm	18ppm		
NO2	2ppm	4ppm		
NOX	22ppm	22ppm		
SO2	* * *	* * *		
NO (15)	22ppm	20ppm		
NOX (15)	24ppm	23ppm		
SO2 (15)	* * *	* * *		
Mega Watts	9.35MW	9.78MW		
KSCF/hour	21	31		

Signature: _____

Date: 12/14/20	BLR 2	BLR 4	BLR 2	BLR 4
Start Test 1914	1914			
Recorded Test 1930	1930			
O2	8.5%			
CO	1ppm			
Eff	81.3%			
CO2	7.0%			
T-Stk	350°F			
T-Air	70.9°F			
EA	60.8%			
CO (15)	0ppm			
NO	41ppm			
NO2	1ppm			
NOX	42ppm			
SO2	* * *			
NO (15)	20ppm			
NOX (15)	20ppm			
SO2 (15)	* * *			
K lbs/hour	44			

Signature: _____

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 07:34:40 PM
Date: 12/14/20

GT#1 Fuel
9.8 MW NGAS
9.3

O ₂	15.7 %
CO	2 ppm
Eff	77.2 %
CO ₂	3.0 %
T-Stk	257 °F
T-Air	70.7 °F
EA	250.0 %
CO(15)	3 ppm
NO	19 ppm
NO ₂	2 ppm
NO _x	22 ppm
SO ₂	*** ppm
NO(15)	22 ppm
NO ₂ (15)	3 ppm
NO _x (15)	24 ppm
SO ₂ (15)	*** ppm

Comments:

NO_x(15) 8.

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 07:36:20 PM
Date: 12/14/20

GT#2 Fuel
9.78 MW NGAS

O ₂	15.5 %
CO	5 ppm
Eff	78.5 %
CO ₂	3.1 %
T-Stk	244 °F
T-Air	68.9 °F
EA	250.0 %
CO(15)	6 ppm
NO	18 ppm
NO ₂	4 ppm
NO _x	22 ppm
SO ₂	*** ppm
NO(15)	20 ppm
NO ₂ (15)	4 ppm
NO _x (15)	23 ppm
SO ₂ (15)	*** ppm

Comments:

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 07:30:50 PM
Date: 12/14/20

Boiler 2 Fuel
40KPA NGAS 900ACFM

O ₂	8.5 %
CO	1 ppm
Eff	81.3 %
CO ₂	7.0 %
T-Stk	350 °F
T-Air	70.9 °F
EA	60.8 %
CO(15)	0 ppm
NO	41 ppm
NO ₂	1 ppm
NO _x	42 ppm
SO ₂	*** ppm
NO(15)	20 ppm
NO ₂ (15)	0 ppm
NO _x (15)	20 ppm
SO ₂ (15)	*** ppm

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date: 12/21/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1013	1020		
Recorded Test	1020	1024		
O2	15.6%	15.1%		
CO	3ppm	4ppm		
Eff	74.1%	75.7%		
CO2	3.0%	3.3%		
T-Stk	303°F	294°F		
T-Air	70.7°F	68°F		
EA	250%	233.2%		
CO (15)	3ppm	5ppm		
NO	16ppm	19ppm		
NO2	2ppm	3ppm		
NOX	18ppm	22ppm		
SO2	***	***		
NO (15)	17ppm	20ppm		
NOX (15)	20ppm	23ppm		
SO2 (15)	***	***		
Mega Watts	9.7 MW	8.3 MW		
KSCF/hour	21 KSCFH	22 KSCFH		

Signature:

 DARIO DE LEON

Date: 12/21	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	0955			
Recorded Test	1011			
O2	9.9%			
CO	0ppm			
Eff	81.6%			
CO2	6.2%			
T-Stk	319°F			
T-Air	74.2°F			
EA	79.5%			
CO (15)	0ppm			
NO	44ppm			
NO2	0ppm			
NOX	45ppm			
SO2	***			
NO (15)	24ppm			
NOX (15)	24ppm			
SO2 (15)	***			
K lbs/hour	33 KPPH			

Signature:

 DARIO DE LEON

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:24:06 AM
Date: 12/21/20

GT#2
W/D3

Fuel
NGAS

O₂: 15.1 %
CO: 4 ppm
Eff: 75.7 %
CO₂: 3.3 %
T-Stk: 294 °F
T-Air: 68.0 °F
EA: 233.2 %
CO(15): 5 ppm
NO: 19 ppm
NO₂: 3 ppm
NOx: 22 ppm
SO₂: 20 ppm
NO(15): 3 ppm
NO₂(15): 23 ppm
NOx(15): 23 ppm
SO₂(15): 23 ppm

Comments: 8.3 MNV

22KSCFH



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:20:28 AM
Date: 12/21/20

GT#1
W/D3

Fuel
NGAS

O₂: 15.6 %
CO: 3 ppm
Eff: 74.1 %
CO₂: 3.0 %
T-Stk: 303 °F
T-Air: 70.7 °F
EA: 250.0 %
CO(15): 3 ppm
NO: 16 ppm
NO₂: 2 ppm
NOx: 18 ppm
SO₂: 17 ppm
NO(15): 17 ppm
NO₂(15): 2 ppm
NOx(15): 20 ppm
SO₂(15): 20 ppm

Comments: 9.7 MNV

22KSCFH



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:11:38 AM
Date: 12/21/20

BOILER
#2

Fuel
NGAS

O₂: 9.9 %
CO: 0 ppm
Eff: 81.6 %
CO₂: 6.2 %
T-Stk: 319 °F
T-Air: 74.2 °F
EA: 79.5 %
CO(15): 0 ppm
NO: 44 ppm
NO₂: 0 ppm
NOx: 45 ppm
SO₂: 24 ppm
NO(15): 24 ppm
NO₂(15): 0 ppm
NOx(15): 24 ppm
SO₂(15): 24 ppm

Comments:

33KPPH

EMISSION TEST COLLEGE PARK ENERGY

Date: 12/28/20	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1245	1249		
Recorded Test	1248	1252		
O2	16.8 %	15.3 %		
CO	5 ppm	2 ppm		
Eff	--- ppm%	76.7 %		
CO2	--- ppm%	3.2 %		
T-Stk	284 °F	272 °F		
T-Air	68.2 °F	66.8 °F		
EA	--- %	243.8 %		
CO (15)	--- ppm	2 ppm		
NO	13 ppm	18 ppm		
NO2	3 ppm	2 ppm		
NOX	15 ppm	20 ppm		
SO2	*** ppm	*** ppm		
NO (15)	--- ppm	19 ppm		
NOX (15)	21.58 ppm	21 ppm		
SO2 (15)	*** ppm	*** ppm		
Mega Watts	7.1	8.4		
KSCF/hour	9	50		

Signature:

Kenneth Will

Date: 12/28/20	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1306			
Recorded Test	1321			
O2	8.3 %			
CO	0 ppm			
Eff	81.3 %			
CO2	7.1 %			
T-Stk	354 °F			
T-Air	71.80 °F			
EA	58.1 %			
CO (15)	0 ppm			
NO	44 ppm			
NO2	1 ppm			
NOX	45 ppm			
SO2	*** ppm			
NO (15)	21 ppm			
NOX (15)	21 ppm			
SO2 (15)	*** ppm			
K lbs/hour	44			

Signature:

Kenneth Will

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT # 2 DB

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 01:21:00 PM
Date: 12/28/20

Fuel
NGAS

O ₂	8.3 %
CO	0 ppm
Eff	81.3 %
CO ₂	7.1 %
T-Stk	354 °F
T-Air	71.8 °F
EA	58.1 %
CO(15)	0 ppm
NO	44 ppm
NO ₂	1 ppm
NOx	45 ppm
SO ₂	*** ppm
NO(15)	21 ppm
NO ₂ (15)	0 ppm
NOx(15)	21 ppm
SO ₂ (15)	*** ppm

Comments:

Klbs/hr: 44

GT # 2 DB

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 12:52:21 PM
Date: 12/28/20

Fuel
NGAS

O ₂	15.3 %
CO	2 ppm
Eff	76.7 %
CO ₂	3.2 %
T-Stk	272 °F
T-Air	66.8 °F
EA	243.8 %
CO(15)	2 ppm
NO	18 ppm
NO ₂	2 ppm
NOx	20 ppm
SO ₂	*** ppm
NO(15)	19 ppm
NO ₂ (15)	2 ppm
NOx(15)	21 ppm
SO ₂ (15)	*** ppm

Comments:

MW: 8.4

GT # 2 DB

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 12:48:46 PM
Date: 12/28/20

Fuel
NGAS

O ₂	16.8 %
CO	5 ppm
Eff	---
CO ₂	---
T-Stk	284 °F
T-Air	68.2 °F
EA	---
CO(15)	---
NO	13 ppm
NO ₂	3 ppm
NOx	15 ppm
SO ₂	*** ppm
NO(15)	---
NO ₂ (15)	---
NOx(15)	---
SO ₂ (15)	*** ppm

Comments:

MW: 7.85

$$\frac{20.9 - 15}{20.9 - 16.8} \times \text{NOx}$$

$$\begin{aligned} \text{GT} \# 1 &= \frac{5.9}{4.1} \times 15 \\ (\text{NOx})_{15} &= 21.58 \text{ ppm} \end{aligned}$$



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

April 22, 2021

Ms. Susan Nash
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Ms. Nash & Director:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of January 1, 2021 through March 31, 2021.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Phil Riggs, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

University of Maryland- Combined Heating and Power Plant Facility March 2021

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
						scf/12-months	gal/12-months	mmbtu/12-months		tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	736.40	0.00	90893.06	0.00		437,300,000	0	457,394	0	0.0454	0.0000	0.0454	5.4990	0.0000	5.4990	0.1363	0.0000	0.1363	0.2727	0.0000	0.2727	0.2227	0.0000	0.2227	0.2227	0.0000	0.2227
Turbine 2	735.70	0.00	92085.44	0.00		849,302,000	0	888,327	0	0.0921	0.0000	0.0921	5.9395	0.0000	5.9395	0.6446	0.0000	0.6446	0.2763	0.0000	0.2763	0.1658	0.0000	0.1658	0.1658	0.0000	0.1658
Duct Burner 1	664.50		8137.49			38,970,000		40,761		0.0219		0.0219	0.0529		0.0529	0.0407		0.0407	0.0024		0.0024	0.0080		0.0080	0.0080		0.0080
Duct Burner 2	581.10		18952.61			259,201,000		271,111		0.0511		0.0511	0.1232		0.1232	0.0948		0.0948	0.0056		0.0056	0.0186		0.0186	0.0186		0.0186
Boiler 2	250.30	0.00	9496.18	0.00						0.0011	0.0000	0.0011	0.4826	0.0000	0.4826	0.0026	0.0000	0.0026	0.0028	0.0000	0.0028	0.0426	0.0000	0.0426	0.0426	0.0000	0.0426
Boiler 4	45.90	0.00	848.27	0.00						0.0002	0.0000	0.0002	0.0435	0.0000	0.0435	0.0009	0.0000	0.0009	0.0002	0.0000	0.0002	0.0026	0.0000	0.0026	0.0026	0.0000	0.0026
Emerg. Gen.		0.00		0.00	0.5						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000
Mobile Boiler	37.10	0.00	0.16	0.00						0.0003	0.0000	0.0003	0.0030	0.0000	0.0030	0.0031	0.0000	0.0031	0.0000	0.0000	0.0000	0.0009	0.0000	0.0009	0.0009	0.0000	0.0009
Emissions Total										0.2122	0.0000	0.2122	12.1437	0.0000	12.1437	0.9230	0.0000	0.9230	0.5600	0.0000	0.5600	0.4611	0.0000	0.4611	0.4611	0.0000	0.4611

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		2.08	109.54	9.37	4.58	5.46	5.46
		OK	OK	OK	OK	OK	OK

Time: 12:14:00 PM
Date: 01/04/21

Time: 12:22:24 PM
Date: 01/04/21

EMISSION TEST COLLEGE

Date: 1/4/2021	GT 1 DB	GT 2 DB
Start Test	1214	1219
Recorded Test	1217	1222
O2	16.4 %	15.6 %
CO	4 PPM	4 PPM
Eff	---	73.9 %
CO2	---	3.0 %
T-Stk	294 °F	293 °F
T-Air	64.8 °F	60.8 °F
EA	---	250.0 %
CO (15)	---	5 PPM
NO	13 PPM	15 PPM
NO2	2 PPM	3 PPM
NOX	15 PPM	18 PPM
SO2	*** PPM	*** PPM
NO (15)	---	17 PPM
NOX (15)	19.6 PPM	20 PPM
SO2 (15)	*** PPM	*** PPM
Mega Watts	8.2	8.5
KSCF/hour	16	36

Fuel
NGAS

Fuel
NGAS

O2	16.4 %	O2	15.6 %
CO	4 ppm	CO	4 ppm
Eff	---	Eff	73.9 %
CO2	---	CO2	3.0 %
T-Stk	294 °F	T-Stk	293 °F
T-Air	64.8 °F	T-Air	60.8 °F
EA	---	EA	250.0 %
CO (15)	---	CO (15)	5 ppm
NO	13 ppm	NO	15 ppm
NO2	2 ppm	NO2	3 ppm
NOx	15 ppm	NOx	18 ppm
SO2	*** ppm	SO2	*** ppm
NO (15)	---	NO (15)	17 ppm
NO2 (15)	---	NO2 (15)	3 ppm
NOx (15)	19.6 ppm	NOx (15)	20 ppm
SO2 (15)	*** ppm	SO2 (15)	*** ppm

Comments:

MW: 8.2
KSCF/hr: 16

Comments:

MW: 8.5
KSCF/hr: 36

Signature:

Kenneth Will

Date: 1/4/2021	BLR 2	BLR 4	BLR 2
Start Test	1225		
Recorded Test	1240		
O2	9.5 %		
CO	1 PPM		
Eff	80.3 %		
CO2	6.4 %		
T-Stk	355 °F		
T-Air	70.5 °F		
EA	74.8 %		
CO (15)	1 PPM		
NO	38 PPM		
NO2	1 PPM		
NOX	39 PPM		
SO2	*** PPM		
NO (15)	20 PPM		
NOX (15)	20 PPM		
SO2 (15)	*** PPM		
K lbs/hour	45		

Signature:

Kenneth Will

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 12:40:50 PM
Date: 01/04/21

Fuel
NGAS

O2	9.5 %
CO	1 ppm
Eff	80.3 %
CO2	6.4 %
T-Stk	355 °F
T-Air	70.5 °F
EA	74.8 %
CO (15)	1 ppm
NO	38 ppm
NO2	1 ppm
NOx	39 ppm
SO2	*** ppm
NO (15)	20 ppm
NO2 (15)	1 ppm
NOx (15)	20 ppm
SO2 (15)	*** ppm

Comments:

K lbs/hr: 45

WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

ATTACH FORM TO THIS SHEET

Time: 09:27:08 AM
Date: 01/11/21

Date: 01/11/21

EMISSION TEST COLLEGE

Fuel
NGAS

Fuel
NGAS

Date: 1/11/21	GT 1 DB	GT 2 DB
Start Test	0924	0930
Recorded Test	0927	0934
O2	14.9 %	14.4 %
CO	5 PPM	5 PPM
Eff	74.4 %	76.3 %
CO2	3.4 %	3.7 %
T-Stk	314 °F	298 °F
T-Air	60.7 °F	55.2 °F
EA	222.2 %	197.0 %
CO (15)	5 PPM	4 PPM
NO	15 PPM	18 PPM
NO2	3 PPM	3 PPM
NOX	19 PPM	22 PPM
SO2	*** PPM	*** PPM
NO (15)	15 PPM	16 PPM
NOX (15)	18 PPM	20 PPM
SO2 (15)	*** PPM	*** PPM
Mega Watts	8.5	8.7
KSCF/hour	18	31

O2: 14.9 %
CO: 5 ppm
Eff: 74.4 %
CO2: 3.4 %
T-Stk: 314 °F
T-Air: 60.7 °F
EA: 222.2 %
CO (15): 5 ppm
NO: 15 ppm
NO2: 3 ppm
NOx: 19 ppm
SO2: *** ppm
NO (15): 15 ppm
NO2 (15): 3 ppm
NOx (15): 18 ppm
SO2 (15): *** ppm

O2: 14.4 %
CO: 5 ppm
Eff: 76.3 %
CO2: 3.7 %
T-Stk: 298 °F
T-Air: 55.2 °F
EA: 197.0 %
CO (15): 4 ppm
NO: 18 ppm
NO2: 3 ppm
NOx: 22 ppm
SO2: *** ppm
NO (15): 16 ppm
NO2 (15): 3 ppm
NOx (15): 20 ppm
SO2 (15): *** ppm

Comments:

MW 8.5
18

Comments:

MW: 8.7
31

Signature:

Ken Williams

WAT

NAIT

ATTACH FORM TO THIS SHEET

Date: 1/11/21	BLR 2	BLR 4	BLR 2
Start Test	0930		
Recorded Test	0945		
O2	8.4 %		
CO	5 PPM		
Eff	78.8 %		
CO2	7.1 %		
T-Stk	410 °F		
T-Air	58.1 °F		
EA	59.9 %		
CO (15)	2 PPM		
NO	42 PPM		
NO2	2 PPM		
NOX	43 PPM		
SO2	*** PPM		
NO (15)	20 PPM		
NOX (15)	20 PPM		
SO2 (15)	*** PPM		
K lbs/hour	72		

Time: 09:45:31 AM
Date: 01/11/21

Fuel
NGAS

O2: 8.4 %
CO: 5 ppm
Eff: 78.8 %
CO2: 7.1 %
T-Stk: 410 °F
T-Air: 58.1 °F
EA: 59.9 %
CO (15): 2 ppm
NO: 42 ppm
NO2: 2 ppm
NOx: 43 ppm
SO2: *** ppm
NO (15): 20 ppm
NO2 (15): 1 ppm
NOx (15): 20 ppm
SO2 (15): *** ppm

Comments:

1

Signature:

Ken Williams

72

CP42182

EMISSION TEST COLLEGE

Date: 01/18/21	GT 1 DB	GT 2 DB
Start Test	0957	1003
Recorded Test	1000	1006
O ₂	16.9 %	15.5 %
CO	6 PPM	4 PPM
Eff	---	74.5 %
CO ₂	---	3.1 %
T-Stk	310 °F	292 °F
T-Air	64.5 °F	60.9 °F
EA	---	250.0 %
CO (15)	---	4 PPM
NO	11 PPM	18 PPM
NO ₂	3 PPM	2 PPM
NOX	14 PPM	20 PPM
SO ₂	*** PPM	*** PPM
NO (15)	---	19 PPM
NOX (15)	20.6 PPM	22 PPM
SO ₂ (15)	*** PPM	*** PPM
Mega Watts	8.2	8.8
KSCF/hour	13	27

Signature:

Ken Williams

Date: 01/18/21	BLR 2	BLR 4
Start Test	1017	
Recorded Test	1032	
O ₂	9.7 %	
CO	0 PPM	
Eff	81.1 %	
CO ₂	6.3 %	
T-Stk	331 °F	
T-Air	68.4 °F	
EA	76.5 %	
CO (15)	0 PPM	
NO	45 PPM	
NO ₂	1 PPM	
NOX	46 PPM	
SO ₂	*** PPM	
NO (15)	24 PPM	
NOX (15)	24 PPM	
SO ₂ (15)	*** PPM	
K lbs/hour	34	

Signature:

Ken WilliamsTime: 10:00:13 AM
Date: 01/18/21GT 1 DB
Fuel
NGAS

O ₂	16.9 %
CO	6 ppm
Eff	---
CO ₂	---
T-Stk	310 °F
T-Air	64.5 °F
EA	---
CO (15)	---
NO	11 ppm
NO ₂	3 ppm
NOx	14 ppm
SO ₂	*** ppm
NO (15)	---
NO ₂ (15)	---
NOx (15)	---
SO ₂ (15)	---

Comments:

MW: 8.2

KSCF/hr: 13

Time: 10:06:01 AM
Date: 01/18/21GT 2 DB
Fuel
NGAS

O ₂	15.5 %
CO	4 ppm
Eff	74.5 %
CO ₂	3.1 %
T-Stk	292 °F
T-Air	60.9 °F
EA	250.0 %
CO (15)	4 ppm
NO	18 ppm
NO ₂	2 ppm
NOx	20 ppm
SO ₂	*** ppm
NO (15)	19 ppm
NO ₂ (15)	3 ppm
NOx (15)	22 ppm
SO ₂ (15)	*** ppm

Comments:

MW: 8.8

KSCF/hr: 13

FUEL TO ENGINE (LTD) (Start), WAIT

IT 3-5 MINUTES AND THEN PRINT TEST RESULTS

ITACH FORM TO THIS SHEET

Time: 10:32:48 AM
Date: 01/18/21Fuel
NGAS

O ₂	9.7 %
CO	0 ppm
Eff	81.1 %
CO ₂	6.3 %
T-Stk	331 °F
T-Air	68.4 °F
EA	76.5 %
CO (15)	0 ppm
NO	45 ppm
NO ₂	1 ppm
NOx	46 ppm
SO ₂	*** ppm
NO (15)	24 ppm
NO ₂ (15)	1 ppm
NOx (15)	24 ppm
SO ₂ (15)	*** ppm

Comments:

K lbs/hr: 34

BACHARACH
BACHARACH, INC.
PCA 2
SN: RP1001

Time: 01:44:20 PM
Date: 01/25/21 **BLR7**

Fuel
NGAS

O₂: 4.4 %
CO: 0 ppm
Eff: 84.0 %
CO₂: 9.3 %
T-STK: 322 °F
T-AIR: 71.5 °F
EA: 23.4 %
CO(15): 0 ppm
NO: 64 ppm
NO₂: 2 ppm
NO_x: 65 ppm
SO₂: *** ppm
NO(15): 23 ppm
NO₂(15): 1 ppm
NO_x(15): 23 ppm
SO₂(15): *** ppm

Draft Reading
-0.53 inwc

Comments:

BACHARACH
BACHARACH, INC.
PCA 2
SN: RP1001

Time: 01:24:59 PM
Date: 01/25/21 **GT7 DB**

Fuel
NGAS

O₂: 14.5 %
CO: 4 ppm
Eff: 71.4 %
CO₂: 3.6 %
T-STK: 376 °F
T-AIR: 55.8 °F
EA: 199.9 %
CO(15): 3 ppm
NO: 20 ppm
NO₂: 4 ppm
NO_x: 25 ppm
SO₂: *** ppm
NO(15): 19 ppm
NO₂(15): 4 ppm
NO_x(15): 23 ppm
SO₂(15): *** ppm

Draft Reading
-0.49 inwc

Comments:

BACHARACH
BACHARACH, INC.
PCA 2
SN: RP1001

Time: 01:18:04 PM
Date: 01/25/21 **GT1 DB**

Fuel
NGAS

O₂: 14.2 %
CO: 3 ppm
Eff: 72.9 %
CO₂: 3.8 %
T-STK: 364 °F
T-AIR: 58.2 °F
EA: 188.2 %
CO(15): 3 ppm
NO: 25 ppm
NO₂: 6 ppm
NO_x: 30 ppm
SO₂: *** ppm
NO(15): 22 ppm
NO₂(15): 5 ppm
NO_x(15): 27 ppm
SO₂(15): *** ppm

Draft Reading
-0.38 inwc

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date: 01/25/2021	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	12:13	12:19		
Recorded Test	12:18	12:24		
O2	14.7%	14.5%		
CO	3ppm	4ppm		
Eff	72.9%	71.4%		
CO2	3.8%	3.6%		
T-Stk	364°F	376°F		
T-Air	58.2°F	55.8°F		
EA	188.2%	199.9%		
CO (15)	3ppm	3ppm		
NO	25ppm	20ppm		
NO2	6ppm	4ppm		
NOX	30ppm	25ppm		
SO2	***	***		
NO (15)	22ppm	19ppm		
NOX (15)	27ppm	23ppm		
SO2 (15)	***	***		
Mega Watts	9.6 MW	9.6 MW		
KSCF/hour	18 KSCFH	32 KSCFH		

Signature:

Justin Bigler

Date: 01/25/2021	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	12:29			
Recorded Test	12:44			
O2	4.4%			
CO	0ppm			
Eff	84.0%			
CO2	9.3%			
T-Stk	322°F			
T-Air	71.5°F			
EA	23.4%			
CO (15)	0ppm			
NO	64ppm			
NO2	2ppm			
NOX	65ppm			
SO2	***			
NO (15)	23ppm			
NOX (15)	23ppm			
SO2 (15)	***			
K lbs/hour	38 KPPH			

Signature:

Justin Bigler

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

Date: 1/28/2021	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	i	1105		
Recorded Test		1121		
O2		11.6 %		
CO		0 ppm		
Eff		77.3 %		
CO2		5.3 %		
T-Stk		374 °F		
T-Air		64.3 °F		
EA		110.8 %		
CO (15)		0 ppm		
NO		37 ppm		
NO2		0 ppm		
NOX		38 ppm		
SO2		***		
NO (15)		23 ppm		
NOX (15)		24 ppm		
SO2 (15)		***		
K lbs/hour		12		

Signature: _____

#9 30122



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 11:21:55 AM
Date: 01/28/21

Fuel
NGAS

O2	11.6 %
CO	0 ppm
Eff	77.3 %
CO2	5.3 %
T-STK	374 °F
T-AIR	64.3 °F
EA	110.8 %
CO(15)	0 ppm
NO	37 ppm
NO2	0 ppm
NOx	38 ppm
SO2	*** ppm
NO(15)	23 ppm
NO2(15)	0 ppm
NOx(15)	24 ppm
SO2(15)	*** ppm

Draft Reading
-0.22 inwc

Comments:

12 Kpph

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 07/01/2021	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1243	1251		
Recorded Test	1248	1256		
O2	14.0%	14.1%		
CO	2ppm	3ppm		
Eff	72.4%	71.9%		
CO2	3.9%	3.8%		
T-Stk	371°F	371°F		
T-Air	47.2°F	42.9°F		
EA	179.8%	184.9%		
CO (15)	2ppm	3ppm		
NO	23ppm	20ppm		
NO2	4ppm	4ppm		
NOX	28ppm	24ppm		
SO2	***	***		
NO (15)	20ppm	17ppm		
NOX (15)	23ppm	21ppm		
SO2 (15)	***	***		
Mega Watts	9.41 MW	9.51 MW		
KSCF/hour	21 KSCFH	40 KSCFH		

Signature:

Justin Poirier 

Date: 07/01/2021	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1307			
Recorded Test	1317			
O2	3.8%			
CO	10 ppm			
Eff	83.2%			
CO2	9.7%			
T-Stk	353°F			
T-Air	66.3°F			
EA	19.6%			
CO (15)	3ppm			
NO	53 ppm			
NO2	3ppm			
NOX	56 ppm			
SO2	***			
NO (15)	18 ppm			
NOX (15)	19 ppm			
SO2 (15)	***			
K lbs/hour	57KPPH			

Signature:

Justin Poirier 

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS
Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 01:17:56 PM *20165#2*
Date: 02/01/21

Fuel
NGAS

O₂ 3.8 %
CO 10 ppm
Eff 83.2 %
O₂ 9.7 %
T-SIK 353 °F
T-AIR 66.3 °F
EA 19.6 %
CO(15) 3 ppm
NO 53 ppm
NO₂ 3 ppm
NO_x 56 ppm
SO₂ 18 ppm
NO(15) 1 ppm
NO₂(15) 19 ppm
NO_x(15) 18 ppm

Draft Reading
-0.74 inwc

Comments:



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 12:56:29 PM *GTAD3*
Date: 02/01/21

Fuel
NGAS

O₂ 14.1 %
CO 3 ppm
Eff 71.9 %
O₂ 3.8 %
T-SIK 371 °F
T-AIR 42.9 °F
EA 184.9 %
CO(15) 3 ppm
NO 20 ppm
NO₂ 4 ppm
NO_x 24 ppm
SO₂ 17 ppm
NO(15) 4 ppm
NO₂(15) 21 ppm
NO_x(15) 17 ppm

Draft Reading
-0.56 inwc

Comments:



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 12:48:35 PM *GT103*
Date: 02/01/21

Fuel
NGAS

O₂ 14.0 %
CO 2 ppm
Eff 72.4 %
O₂ 3.9 %
T-SIK 371 °F
T-AIR 47.2 °F
EA 179.8 %
CO(15) 2 ppm
NO 23 ppm
NO₂ 4 ppm
NO_x 28 ppm
SO₂ 20 ppm
NO(15) 4 ppm
NO₂(15) 23 ppm
NO_x(15) 17 ppm

Draft Reading
-0.50 inwc

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date: 07/01/2021	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1243	1251		
Recorded Test	1248	1256		
O2	14.0%	14.1%		
CO	2ppm	3ppm		
Eff	72.4%	71.9%		
CO2	3.9%	3.8%		
T-Stk	371°F	371°F		
T-Air	47.2°F	42.9°F		
EA	179.8%	184.9%		
CO (15)	2ppm	3ppm		
NO	23ppm	20ppm		
NO2	4ppm	4ppm		
NOX	28ppm	24ppm		
SO2	***	***		
NO (15)	20ppm	17ppm		
NOX (15)	23ppm	21ppm		
SO2 (15)	***	***		
Mega Watts	9.41 MW	9.51 MW		
KSCF/hour	21 KSCFH	40 KSCFH		

Signature:

Justin Poirier *[Signature]*

Date: 07/01/2021	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1307			
Recorded Test	1317			
O2	3.8%			
CO	10 ppm			
Eff	83.2%			
CO2	9.7%			
T-Stk	353°F			
T-Air	66.3°F			
EA	19.6%			
CO (15)	3ppm			
NO	53 ppm			
NO2	3ppm			
NOX	56 ppm			
SO2	***			
NO (15)	18 ppm			
NOX (15)	19 ppm			
SO2 (15)	***			
K lbs/hour	57KPPH			

Signature:

Justin Poirier *[Signature]*

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS
Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 01:17:56 PM *20165#2*
Date: 02/01/21

Fuel
NGAS

O₂ 3.8 %
CO 10 ppm
Eff 83.2 %
O₂ 9.7 %
T-SIK 353 °F
T-AIR 66.3 °F
EA 19.6 %
CO(15) 3 ppm
NO 53 ppm
NO₂ 3 ppm
NO_x 56 ppm
SO₂ 18 ppm
NO(15) 1 ppm
NO_x(15) 19 ppm
SO₂(15) 18 ppm

Draft Reading
-0.74 inwc

Comments:



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 12:56:29 PM
Date: 02/01/21

GTAD3

Fuel
NGAS

O₂ 14.1 %
CO 3 ppm
Eff 71.9 %
CO₂ 3.8 %
T-SIK 371 °F
T-AIR 42.9 °F
EA 184.9 %
CO(15) 3 ppm
NO 20 ppm
NO₂ 4 ppm
NO_x 24 ppm
SO₂ 17 ppm
NO(15) 17 ppm
NO₂(15) 4 ppm
NO_x(15) 21 ppm
SO₂(15) 17 ppm

Draft Reading
-0.56 inwc

Comments:



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 12:48:35 PM
Date: 02/01/21

GT103

Fuel
NGAS

O₂ 14.0 %
CO 2 ppm
Eff 72.4 %
CO₂ 3.9 %
T-SIK 371 °F
T-AIR 47.2 °F
EA 179.8 %
CO(15) 2 ppm
NO 23 ppm
NO₂ 4 ppm
NO_x 28 ppm
SO₂ 17 ppm
NO(15) 20 ppm
NO₂(15) 4 ppm
NO_x(15) 23 ppm
SO₂(15) 17 ppm

Draft Reading
-0.50 inwc

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date: 02/08/2021	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1045	1053		
Recorded Test	1050	1058		
O2	14.3%	14.6%		
CO	3ppm	4ppm		
Eff	72.4%	71.0%		
CO2	3.7%	3.6%		
T-Stk	375°F	380°F		
T-Air	63.2°F	59.2°F		
EA	192.0%	206.7%		
CO (15)	3ppm	4ppm		
NO	19ppm	19ppm		
NO2	3ppm	3ppm		
NOX	20ppm	27ppm		
SO2	***ppm	***ppm		
NO (15)	17ppm	18ppm		
NOX (15)	20ppm	21ppm		
SO2 (15)	***ppm	***ppm		
Mega Watts	9.5 MW	9.7 MW		
KSCF/hour	33 KSCFH	40 KSCFH		

Signature: J. Posner

Date: 02/08/2021	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		1101		
Recorded Test		1116		
O2		4.1%		
CO		0ppm		
Eff		75.8%		
CO2		9.5%		
T-Stk		637°F		
T-Air		79.9°F		
EA		21.9%		
CO (15)		0ppm		
NO		87ppm		
NO2		0ppm		
NOX		87ppm		
SO2		***ppm		
NO (15)		29ppm		
NOX (15)		29ppm		
SO2 (15)		***ppm		
K lbs/hour		69 KPPH		

Signature: J. Posner

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

BACHARACH

BACHARACH, INC.
PCA 2
SN: RP1001

Time: 11:16:35 AM
Date: 02/08/21

Boiler #4

Fuel
NGAS

O ₂	4.1 %
CO	0 ppm
Eff	75.8 %
CO ₂	9.5 %
T-STK	637 °F
T-AIR	79.9 °F
EA	21.9 %
CO (15)	0 ppm
NO	82 ppm
NO ₂	0 ppm
NO _x	82 ppm
SO ₂	*** ppm
NO (15)	29 ppm
NO ₂ (15)	0 ppm
NO _x (15)	29 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.95 inwc

Comments:

BACHARACH

BACHARACH, INC.
PCA 2
SN: RP1001

Time: 10:58:14 AM
Date: 02/08/21

GTADB

Fuel
NGAS

O ₂	14.6 %
CO	4 ppm
Eff	71.0 %
CO ₂	3.6 %
T-STK	380 °F
T-AIR	59.2 °F
EA	206.7 %
CO (15)	4 ppm
NO	19 ppm
NO ₂	3 ppm
NO _x	22 ppm
SO ₂	*** ppm
NO (15)	18 ppm
NO ₂ (15)	3 ppm
NO _x (15)	21 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.53 inwc

Comments:

BACHARACH

BACHARACH, INC.
PCA 2
SN: RP1001

Time: 10:50:47 AM
Date: 02/08/21

GTADB

Fuel
NGAS

O ₂	14.3 %
CO	3 ppm
Eff	72.4 %
CO ₂	3.7 %
T-STK	375 °F
T-AIR	63.2 °F
EA	192.0 %
CO (15)	3 ppm
NO	19 ppm
NO ₂	3 ppm
NO _x	22 ppm
SO ₂	*** ppm
NO (15)	17 ppm
NO ₂ (15)	3 ppm
NO _x (15)	20 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.51 inwc

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date: 02/15/2021	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0929	0937		
Recorded Test	0935	0943		
O2	14.4%	14.0%		
CO	4ppm	4 ppm		
Eff	72.5%	72.9%		
CO2	3.7%	3.9%		
T-Stk	370°F	374°F		
T-Air	66.2°F	59.7°F		
EA	198.0%	181.1%		
CO (15)	3ppm	3ppm		
NO	23ppm	27ppm		
NO2	5ppm	4ppm		
NOX	27ppm	26 ppm		
SO2	***	***		
NO (15)	21ppm	19ppm		
NOX (15)	25ppm	23ppm		
SO2 (15)	***	***		
Mega Watts	9.58 MW	9.73 MW		
KSCF/hour	18 KSCFH	39 KSCFH		

Signature: Justin Boieser

Date: 02/15/2021	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	0947			
Recorded Test	1003			
O2	4.6%			
CO	0ppm			
Eff	84.2%			
CO2	9.2%			
T-Stk	317°F			
T-Air	77.3°F			
EA	25.2%			
CO (15)	0ppm			
NO	59ppm			
NO2	1 ppm			
NOX	60ppm			
SO2	***			
NO (15)	21ppm			
NOX (15)	29ppm			
SO2 (15)	***			
K lbs/hour	36 KPPH			

Signature: Justin Boieser

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS
Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 10:03:42 AM
Date: 02/15/21

Boiler 2

Fuel
NGAS

O ₂	4.6 %
CO	0 ppm
Eff	84.2 %
CO ₂	9.2 %
T-SIK	317 °F
T-AIR	77.3 °F
EA	25.2 %
CO (15)	0 ppm
NO	59 ppm
NO ₂	1 ppm
NO _x	60 ppm
SO ₂	*** ppm
NO (15)	21 ppm
NO ₂ (15)	0 ppm
NO _x (15)	22 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.64 inwc

Comments:



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 09:43:32 AM
Date: 02/15/21

GT4DB

Fuel
NGAS

O ₂	14.0 %
CO	4 ppm
Eff	72.9 %
CO ₂	3.9 %
T-SIK	374 °F
T-AIR	59.7 °F
EA	181.1 %
CO (15)	3 ppm
NO	22 ppm
NO ₂	4 ppm
NO _x	26 ppm
SO ₂	*** ppm
NO (15)	19 ppm
NO ₂ (15)	3 ppm
NO _x (15)	22 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.50 inwc

Comments:



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 09:35:31 AM
Date: 02/15/21

GT4DB

Fuel
NGAS

O ₂	14.4 %
CO	4 ppm
Eff	72.5 %
CO ₂	3.7 %
T-SIK	370 °F
T-AIR	66.2 °F
EA	198.0 %
CO (15)	3 ppm
NO	23 ppm
NO ₂	5 ppm
NO _x	27 ppm
SO ₂	*** ppm
NO (15)	21 ppm
NO ₂ (15)	4 ppm
NO _x (15)	25 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.49 inwc

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date: 02/22/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	2206	2212		
Recorded Test	2211	2217		
O2	14.0 %	14.5 %		
CO	3ppm	6ppm		
Eff	73.6 %	72.1 %		
CO2	3.9 %	3.6 %		
T-Stk	377°F	375°F		
T-Air	73.4°F	66.8°F		
EA	179.7 %	201.3 %		
CO (15)	3ppm	6ppm		
NO	26ppm	18ppm		
NO2	3ppm	3ppm		
NOX	29ppm	21ppm		
SO2	***	***		
NO (15)	22ppm	17ppm		
NOX (15)	25ppm	20ppm		
SO2 (15)	***	***		
Mega Watts	8.9 MW	9.1 MW		
KSCF/hour	25KSCFH	37KSCFH		

Signature: _____

Date: 02/22/21	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	2140			
Recorded Test	2157			
O2	5.0 %			
CO	0ppm			
Eff	84.4 %			
CO2	9.0 %			
T-Stk	309°F			
T-Air	79.9°F			
EA	28.0 %			
CO (15)	0ppm			
NO	60ppm			
NO2	2ppm			
NOX	62ppm			
SO2	***			
NO (15)	22ppm			
NOX (15)	23ppm			
SO2 (15)	***			
K lbs/hour	32KPPH			

Signature: _____

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:11:10 PM
Date: 02/22/21

Fuel
NGAS

O ₂	14.0 %
CO	3 ppm
Eff	73.6 %
CO ₂	3.9 %
T-Stk	377 °F
T-Air	73.4 °F
EA	179.7 °F
CO (15)	3 ppm
NO	28 ppm
NO ₂	3 ppm
NO _x	29 ppm
SO ₂	22 ppm
NO (15)	2 ppm
NO ₂ (15)	25 ppm
NO _x (15)	25 ppm
SO ₂ (15)	25 ppm

Comments:

#1 8.9 MW
25KSCFH



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:17:31 PM
Date: 02/22/21

Fuel
NGAS

O ₂	14.5 %
CO	6 ppm
Eff	72.1 %
CO ₂	3.6 %
T-Stk	375 °F
T-Air	68.8 °F
EA	201.3 °F
CO (15)	6 ppm
NO	18 ppm
NO ₂	3 ppm
NO _x	21 ppm
SO ₂	17 ppm
NO (15)	3 ppm
NO ₂ (15)	20 ppm
NO _x (15)	20 ppm
SO ₂ (15)	20 ppm

Comments:

#2 9.1 MW
37KSCFH



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 09:57:41 PM
Date: 02/22/21

Fuel
NGAS

O ₂	5.0 %
CO	0 ppm
Eff	84.4 %
CO ₂	8.0 %
T-Stk	309 °F
T-Air	79.9 °F
EA	28.0 °F
CO (15)	0 ppm
NO	80 ppm
NO ₂	2 ppm
NO _x	62 ppm
SO ₂	22 ppm
NO (15)	1 ppm
NO ₂ (15)	23 ppm
NO _x (15)	23 ppm
SO ₂ (15)	23 ppm

Comments:

Boiler #2
32 KPPH
655 ACFM

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test	1340	1349
Recorded Test	1345	1354
O2	14.8%	14.4%
CO	0 PPM	0 PPM
Eff	77.6%	78.2%
CO2	3.5%	3.7%
T-Stk	280°F	285°F
T-Air	71.1°F	72.9°F
EA	214.3%	196.4%
CO (15)	0 PPM	0 PPM
NO	19.1 PPM	21.7 PPM
NO2	3.9 PPM	3.4 PPM
NOX	23 PPM	25.1 PPM
SO2		
NO (15)	18 PPM	20 PPM
NOX (15)	22 PPM	23 PPM
SO2 (15)		
Mega Watts	8.77 MW	9.28 MW
KSCF/hour	13 KSCF	35 KSCF

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 01:45:30 PM
Date: 03/04/21

Fuel
NGAS

O2 14.8 %
CO 0 ppm
Eff 77.6 %
CO2 3.5 %
T-Stk 280 °F
T-Air 71.1 °F
EA 214.3 %
CO (15) 0 ppm
NO 19.1 ppm
NO2 3.9 ppm
NOx 23.0 ppm
NO (15) 18 ppm
NO2 (15) 4 ppm
NOx (15) 22 ppm
Flow 0.76 LPM

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 01:54:21 PM
Date: 03/04/21

Fuel
NGAS

O2 14.4 %
CO 0 ppm
Eff 78.2 %
CO2 3.7 %
T-Stk 285 °F
T-Air 72.9 °F
EA 196.4 %
CO (15) 0 ppm
NO 21.7 ppm
NO2 3.4 ppm
NOx 25.1 ppm
NO (15) 20 ppm
NO2 (15) 3 ppm
NOx (15) 23 ppm
Flow 0.76 LPM

Signature:

JOSH SASSA

Kishin S

Comments:

GT #1
COMBINED CYCLE

Comments:

GT #2
COMBINED
CYCLE

Date:	BLR 2	BLR 4
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
K lbs/hour		

Signature:

TES AND THEN PRINT TEST RESULTS

TES AND THEN PRINT TEST RESULTS

TO THIS SHEET

EMISSION TEST COLLEGE

Date: 03/08/21	GT 1 DB	GT 2 DB
Start Test	0942	0946
Recorded Test	0945	0950
O2	15.1 %	15.1 %
CO	6 PPM	6 PPM
Eff	75.4 %	75.7 %
CO2	3.3 %	3.3 %
T-Stk	298 °F	288 °F
T-Air	66.6 °F	61.6 °F
EA	233.4 %	232.9 %
CO (15)	6 PPM	6 PPM
NO	19.1 PPM	17.1 PPM
NO2	4.7 PPM	3.2 PPM
NOX	23.7 PPM	20.3 PPM
SO2	*** PPM	*** PPM
NO (15)	20 PPM	18 PPM
NOX (15)	24 PPM	21 PPM
SO2 (15)	*** PPM	*** PPM
Mega Watts	9.4	9.3
KSCF/hour	12	37

Signature:

Kenneth Wille

Time: 09:45:01 AM
Date: 03/08/21

Fuel
NGAS

O2: 15.1 %
CO: 6 ppm
Eff: 75.4 %
CO2: 3.3 %
T-Stk: 298 °F
T-Air: 66.6 °F
EA: 233.4 %
CO (15): 6 ppm
NO: 19.1 ppm
NO2: 4.7 ppm
NOx: 23.7 ppm
NO (15): 20 ppm
NO2 (15): 5 ppm
NOx (15): 24 ppm
Flow: 0.76 LPM

GT 1 DB

Comments:

MW: 9.4
KSCF/hr: 12

Time: 09:50:31 AM
Date: 03/08/21

Fuel
NGAS

O2: 15.1 %
CO: 6 ppm
Eff: 75.7 %
CO2: 3.3 %
T-Stk: 288 °F
T-Air: 61.6 °F
EA: 232.9 %
CO (15): 6 ppm
NO: 17.1 ppm
NO2: 3.2 ppm
NOx: 20.3 ppm
NO (15): 18 ppm
NO2 (15): 3 ppm
NOx (15): 21 ppm
Flow: 0.76 LPM

GT 2 DB

Comments:

MW: 9.3
KSCF/hr: 37

Date:	BLR 2	BLR 4	BLR 2
Start Test	0951		
Recorded Test	1006		
O2	4.7 %		
CO	0 PPM		
Eff	83.4 %		
CO2	9.2 %		
T-Stk	337 °F		
T-Air	68.0 °F		
EA	25.7 %		
CO (15)	0 PPM		
NO	57 PPM		
NO2	1.3 PPM		
NOX	59 PPM		
SO2	*** PPM		
NO (15)	21 PPM		
NOX (15)	21 PPM		
SO2 (15)	*** PPM		
K lbs/hour	37		

Signature:

Kenneth Wille

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 10:06:44 AM
Date: 03/08/21

Fuel
NGAS

O2: 4.7 %
CO: 0 ppm
Eff: 83.4 %
CO2: 9.2 %
T-Stk: 337 °F
T-Air: 68.0 °F
EA: 25.7 %
CO (15): 0 ppm
NO: 57 ppm
NO2: 1.3 ppm
NOx: 59 ppm
NO (15): 21 ppm
NO2 (15): 0 ppm
NOx (15): 21 ppm
Flow: 0.75 LPM

BLR 2

Comments:

K lbs/hr: 37

ACH FORM TO THIS SHEET

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test	1233	1238
Recorded Test	1236	1241
O2	15.7 %	14.8 %
CO	4 PPM	2 PPM
Eff	73.9 %	76.5 %
CO2	2.9 %	3.5 %
T-Stk	300 °F	298 °F
T-Air	69.8 °F	70.8 °F
EA	250.0 %	213.5 %
CO (15)	4 PPM	2 PPM
NO	14.0 PPM	17.8 PPM
NO2	2.9 PPM	2.7 PPM
NOX	16.9 PPM	20.4 PPM
SO2	*** PPM	*** PPM
NO (15)	16 PPM	17 PPM
NOX (15)	19 PPM	20 PPM
SO2 (15)	*** PPM	*** PPM
Mega Watts	8.23	8.07
KSCF/hour	15	30

Signature:

Ken Williams

Date:	BLR 2	BLR 4
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
K lbs/hour		

Signature:

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 12:36:35 PM
Date: 03/15/21

Fuel
NGAS

O2: 15.7 %
CO: 4 ppm
Eff: 73.9 %
CO2: 2.9 %
T-Stk: 300 °F
T-Air: 69.8 °F
EA: 250.0 %
CO (15): 4 ppm
NO: 14.0 ppm
NO2: 2.9 ppm
NOx: 16.9 ppm
NO (15): 16 ppm
NO2 (15): 3 ppm
NOx (15): 19 ppm
Flow: 0.75 LPM

GT1DB

Comments: MW: 8.23
KSCF: 15

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 12:41:08 PM
Date: 03/15/21

Fuel
NGAS

O2: 14.8 %
CO: 2 ppm
Eff: 76.5 %
CO2: 3.5 %
T-Stk: 298 °F
T-Air: 70.8 °F
EA: 213.5 %
CO (15): 2 ppm
NO: 17.8 ppm
NO2: 2.7 ppm
NOx: 20.4 ppm
NO (15): 17 ppm
NO2 (15): 3 ppm
NOx (15): 20 ppm
Flow: 0.75 LPM

GT2 DB

Comments:

MW: 8.07
KSCF: 30

1 TO THIS SHEET
TES AND THEN PRINT TEST RESULTS
TES AND THEN PRINT TEST RESULTS

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 08:58:19 AM
Date: 03/22/21

Fuel
NGAS

O ₂	14.3 %
CO	5 ppm
Eff	72.6 %
CO ₂	3.7 %
T-Stk	376 °F
T-Air	68.1 °F
EA	192.6 %
CO (15)	5 ppm
NO	19 ppm
NO ₂	5 ppm
NO _x	24 ppm
SO ₂	*** ppm
NO (15)	17 ppm
NO ₂ (15)	4 ppm
NO _x (15)	21 ppm
SO ₂ (15)	*** ppm

Comments: 9.4 MW
30 KSCFH

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 08:50:06 AM
Date: 03/22/21

GT1DB

Fuel
NGAS

O ₂	15.0 %
CO	7 ppm
Eff	71.0 %
CO ₂	3.3 %
T-Stk	371 °F
T-Air	71.6 °F
EA	228.6 %
CO (15)	7 ppm
NO	15 ppm
NO ₂	6 ppm
NO _x	21 ppm
SO ₂	*** ppm
NO (15)	15 ppm
NO ₂ (15)	6 ppm
NO _x (15)	21 ppm
SO ₂ (15)	*** ppm

Comments: 9.1 MW
8 KSCFH

EMISSION TEST COLLEGE PARK ENERGY

Date: 03/08/2021	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0845	0852		
Recorded Test	0850	0858		
O2	15.0%	14.3%		
CO	7ppm	5ppm		
Eff	71.0%	72.6%		
CO2	3.3%	3.7%		
T-Stk	371°F	376°F		
T-Air	71.6°F	68.1°F		
EA	228.6%	192.6%		
CO (15)	7ppm	5ppm		
NO	15ppm	19ppm		
NO2	6ppm	5ppm		
NOX	21ppm	24ppm		
SO2	***	***		
NO (15)	15ppm	17ppm		
NOX (15)	21ppm	21ppm		
SO2 (15)	***	***		
Mega Watts	9.1 MW	9.4 MW		
KSCF/hour	8 KSCFH	30 KSCFH		

Signature:



Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:


GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS
Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 03/29/2021	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1238	1236		
Recorded Test	1233	1240		
O2	15.4%	15.9%		
CO	11ppm	1ppm		
Eff	68.5%	66.1%		
CO2	3.1%	2.8%		
T-Stk	389°F	389°F		
T-Air	71.4°F	65.7°F		
EA	250%	250%		
CO (15)	12ppm	1ppm		
NO	15ppm	17ppm		
NO2	5ppm	3ppm		
NOX	21ppm	20ppm		
SO2	***	***		
NO (15)	17ppm	30ppm		
NOX (15)	22ppm	24ppm		
SO2 (15)	***	***		
Mega Watts	8.87 MW	9.18 MW		
KSCF/hour	5 KSCFH	10 KSCFH		

Signature:

Justin Brier 

Date: 03/29/2021	BLR 2	BLR 4	TEMP	BLR 4
Start Test	1256	1309	1430	
Recorded Test	1308	1322	1445	
O2	5.4%	6.9%	8.7%	
CO	0ppm	0ppm	6ppm	
Eff	85.0%	80.8%	100.0%	
CO2	8.8%	7.9%	6.9%	
T-Stk	287°F	414°F	58°F	
T-Air	82.5°F	91.0°F	71.7°F	
EA	30.7%	43.7%	63.9%	
CO (15)	0ppm	0ppm	3ppm	
NO	53ppm	64ppm	18ppm	
NO2	1ppm	0ppm	0ppm	
NOX	54ppm	64ppm	18ppm	
SO2	***	***	***	
NO (15)	20ppm	27ppm	9ppm	
NOX (15)	20ppm	27ppm	9ppm	
SO2 (15)	***	***	***	
K lbs/hour	31 KPPH	22 KPPH	15 KPPH	

Signature:

Justin Brier 

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006Time: 11:42:44 AM
Date: 03/29/21Fuel
NGAS

O ₂	15.9 %
CO	1 ppm
Eff	86.1 %
CO ₂	2.8 %
T-Stk	389 °F
T-Air	65.7 °F
EA	250.0 %
CO(15)	1 ppm
NO	17 ppm
NO ₂	3 ppm
NO _x	20 ppm
SO ₂	*** ppm
NO(15)	20 ppm
NO ₂ (15)	4 ppm
NO _x (15)	24 ppm
SO ₂ (15)	*** ppm

Comments: 4.18 MW
10KSCFH

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006Time: 11:33:47 AM
Date: 03/29/21Fuel
NGAS

O ₂	15.4 %
CO	11 ppm
Eff	88.5 %
CO ₂	3.1 %
T-Stk	389 °F
T-Air	71.4 °F
EA	250.0 %
CO(15)	12 ppm
NO	15 ppm
NO ₂	5 ppm
NO _x	21 ppm
SO ₂	*** ppm
NO(15)	17 ppm
NO ₂ (15)	6 ppm
NO _x (15)	22 ppm
SO ₂ (15)	*** ppm

Comments: 8.82 MW
5KSCFH

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 01:45:16 PM
Date: 03/29/21

TEMP
Boiler

Fuel
NGAS

8.7 %
6 ppm
100.0 %
6.9 %
Stk 58 °F
Air 71.7 °F
63.9 %
3 ppm
18 ppm
0 ppm
18 ppm
*** ppm
(15) 9 ppm
(15) 0 ppm
(15) 9 ppm
(15) *** ppm

Comments: 15 KPPH

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 12:22:14 PM
Date: 03/29/21

Boiler #4

Fuel
NGAS

O₂ 6.9 %
CO 0 ppm
Eff 80.8 %
CO₂ 7.9 %
T-Stk 414 °F
T-Air 91.0 °F
EA 43.7 %
CO(15) 0 ppm
NO 64 ppm
NO₂ 0 ppm
NO_x 64 ppm
SO₂ *** ppm
NO(15) 27 ppm
NO₂(15) 0 ppm
NO_x(15) 27 ppm
SO₂(15) *** ppm

Comments: 20 KPPH

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 12:08:08 PM
Date: 03/29/21

Boiler #2

Fuel
NGAS

5.4 %
0 ppm
CO 85.0 %
Eff 8.8 %
CO₂ 287 °F
T-Stk 82.5 °F
T-Air 30.7 %
EA 0 ppm
CO(15) 53 ppm
NO 1 ppm
NO₂ 54 ppm
NO_x *** ppm
SO₂ 20 ppm
NO(15) 1 ppm
NO₂(15) 20 ppm
NO_x(15) *** ppm
SO₂(15) *** ppm

Comments: 31 KPPH



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

July 07, 2021

Ms. Susan Nash
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Ms. Nash & Director:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of April 1, 2021 through June 30, 2021.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Phil Riggs, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature:

			Temp Boilers	
Date: 04/05/2021	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1215	1233	1158	
Recorded Test	1237	1249	1213	
O2	3.4%	7.3%	7.5%	
CO	3ppm	0ppm	2ppm	
Eff	82.7%	80.5%	99.8%	
CO2	9.9%	7.7%	7.6%	
T-Stk	403°F	423°F	77°F	
T-Air	90.8°F	46.8°F	80.0°F	
EA	17.5%	47.8%	49.6%	
CO (15)	1ppm	0ppm	1ppm	
NO	65ppm	63ppm	25ppm	
NO2	2ppm	0ppm	2ppm	
NOX	68ppm	63ppm	27ppm	
SO2	***	***	***	
NO (15)	27ppm	27ppm	11ppm	
NOX (15)	23ppm	27ppm	12ppm	
SO2 (15)	***	***	***	
K lbs/hour	82KPPH	17KPPH	30KPPH	

Signature:

Justin Boies

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 2
/SN: RP1001

Time: 11:13:21 AM
Date: 04/05/21

Fuel
NGAS

7.5 %
2 ppm
99.8 %
7.6 %
77 °F
80.0 °F
49.6 %
1 ppm
25 ppm
2 ppm
27 ppm
*** ppm
11 ppm
1 ppm
12 ppm
*** ppm

Draft Reading
0.03 inwc

s: TEMP Boiler
30 KPPH



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 11:49:19 AM
Date: 04/05/21 Boiler #4

Fuel
NGAS

O₂ 7.3 %
CO 0 ppm
Eff 80.5 %
CO₂ 7.7 %
T-STK 423 °F
T-AIR 96.8 °F
EA 47.8 %
CO(15) 0 ppm
NO 63 ppm
NO₂ 0 ppm
NO_x 63 ppm
SO₂ *** ppm
NO(15) 27 ppm
NO₂(15) 0 ppm
NO_x(15) 27 ppm
SO₂(15) *** ppm

Draft Reading
-0.31 inwc

Comments: 37 KPPH



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 11:32:52 AM
Date: 04/05/21

Fuel
NGAS

O₂ 3.4 %
CO 3 ppm
Eff 82.7 %
CO₂ 9.9 %
T-STK 403 °F
T-AIR 90.8 °F
EA 17.5 %
CO(15) 1 ppm
NO 65 ppm
NO₂ 2 ppm
NO_x 68 ppm
SO₂ *** ppm
NO(15) 22 ppm
NO₂(15) 1 ppm
NO_x(15) 23 ppm
SO₂(15) *** ppm

Draft Reading
-1.40 inwc

Comments: Boiler #2
87 KPPH

EMISSION TEST COLLEGE PARK ENERGY

Date: 04/12/2021	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0954			
Recorded Test	0959			
O2	13.2%			
CO	4ppm			
Eff	76.9%			
CO2	4.3%			
T-Stk	347°F			
T-Air	78.7°F			
EA	154.0%			
CO (15)	3ppm			
NO	21 ppm			
NO2	3 ppm			
NOX	24 ppm			
SO2	***			
NO (15)	16 ppm			
NOX (15)	18 ppm			
SO2 (15)	***			
Mega Watts	8.66 MW			
KSCF/hour	42 KSCFH			

Signature:

Justin Boitier

Date: 04/12/2021	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1003			
Recorded Test	1018			
O2	5.0%			
CO	0ppm			
Eff	84.9%			
CO2	9.0%			
T-Stk	296°F			
T-Air	84.6°F			
EA	27.9%			
CO (15)	0ppm			
NO	47 ppm			
NO2	1 ppm			
NOX	48 ppm			
SO2	***			
NO (15)	17 ppm			
NOX (15)	18 ppm			
SO2 (15)	***			
K lbs/hour	28 KPPH			

Signature:

Justin Boitier

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

Comments: **28 KPPH**

Comments: 8.66 MU
42KSCFH

EMISSION TEST COLLEGE PARK ENERGY

Date: 4/19/2021	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	12086			1213
Recorded Test	1209			1216
O2	14.7 %			15.7 %
CO	7 PPM			0 PPM
Eff	76.8 %			74.3 %
CO2	3.5 %			2.9 %
T-Stk	300 °F			302 °F
T-Air	77.5 °F			77.3 °F
EA	213.1 %			250.0 %
CO (15)	7 PPM			1 PPM
NO	15 PPM			14 PPM
NO2	6 PPM			4 PPM
NOX	21 PPM			18 PPM
SO2	*** PPM			*** PPM
NO (15)	14 PPM			16 PPM
NOX (15)	20 PPM			20 PPM
SO2 (15)	*** PPM			*** PPM
Mega Watts	8.59			
KSCF/hour	10			

Boiler: RECORD TIME PROBE IS INSERTED

GT: RECORD TIME PROBE IS INSERTED

WHEN FINISHED TEST

Signature: _____

Date:	BLR 2
Start Test	
Recorded Test	
O2	
CO	
Eff	
CO2	
T-Stk	
T-Air	
EA	
CO (15)	
NO	
NO2	
NOX	
SO2	
NO (15)	
NOX (15)	
SO2 (15)	
K lbs/hour	

Signature: _____

GT1 DB
BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 12:09:43 PM
Date: 04/19/21

Fuel
NGAS

O2: 14.7 %
CO 7 ppm
Eff 76.8 %
CO2 3.5 %
T-Stk 300 °F
T-Air 77.5 °F
EA 213.1 %
CO (15) 7 ppm
NO 15 ppm
NO2 6 ppm
NOx 21 ppm
SO2 *** ppm
NO (15) 14 ppm
NO2 (15) 6 ppm
NOx (15) 20 ppm
SO2 (15) *** ppm

Comments: _____

MW: 8.59
KSCF/hr: 10

GT2
9.06

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 12:16:17 PM
Date: 04/19/21

Fuel
NGAS

O2: 15.7 %
CO 0 ppm
Eff 74.3 %
CO2 2.9 %
T-Stk 302 °F
T-Air 77.3 °F
EA 250.0 %
CO (15) 1 ppm
NO 14 ppm
NO2 4 ppm
NOx 18 ppm
SO2 *** ppm
NO (15) 16 ppm
NO2 (15) 4 ppm
NOx (15) 20 ppm
SO2 (15) *** ppm

Comments: _____

MW: 9.06

EMISSION TEST

Date:	GT 1 DB
Start Test	1240
Recorded Test	1243
O2	14.3 %
CO	3 PPM
Eff	79.3 %
CO2	3.7 %
T-Stk	271 °F
T-Air	74.3 °F
EA	191.6 %
CO (15)	2 PPM
NO	19 PPM
NO2	4 PPM
NOX	24 PPM
SO2	*** PPM
NO (15)	17 PPM
NOX (15)	21 PPM
SO2 (15)	*** PPM
Mega Watts	8.4
KSCF/hour	20

Signature:

Ken Well

Date:	BLR 2	BLF
Start Test	1252	
Recorded Test	1307	
O2	5.3 %	
CO	0 PPM	
Eff	85.8 %	
CO2	8.8 %	
T-Stk	267 °F	
T-Air	89.2 °F	
EA	30.5 %	
CO (15)	0 PPM	
NO	55 PPM	
NO2	1 PPM	
NOX	57 PPM	
SO2	*** PPM	
NO (15)	21 PPM	
NOX (15)	22 PPM	
SO2 (15)	*** PPM	
K lbs/hour	22	

Signature:

Ken Well

GT 1 DB

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 12:43:02 PM
Date: 04/26/21

Fuel
NGAS

O2: 14.3 %
CO: 3 ppm
Eff: 79.3 %
CO2: 3.7 %
T-Stk: 271 °F
T-Air: 74.3 °F
EA: 191.6 %
CO(15): 2 ppm
NO: 19 ppm
NO2: 4 ppm
NOx: 24 ppm
SO2: *** ppm
NO(15): 17 ppm
NO2(15): 4 ppm
NOx(15): 21 ppm
SO2(15): *** ppm

Comments:

MW: 8.4
KSCF/hr: 20

GT

BLR 2

BACHARACH
BACHARACH, INC.
PCA 3
SN: TP1006

Time: 01:07:12 PM
Date: 04/26/21

Fuel
NGAS

O2: 5.3 %
CO: 0 ppm
Eff: 85.8 %
CO2: 8.8 %
T-Stk: 267 °F
T-Air: 89.2 °F
EA: 30.5 %
CO(15): 0 ppm
NO: 55 ppm
NO2: 1 ppm
NOx: 57 ppm
SO2: *** ppm
NO(15): 21 ppm
NO2(15): 1 ppm
NOx(15): 22 ppm
SO2(15): *** ppm

Comments:

Klbs/hr: 22

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

SHEET

EMISSION TEST CO

Date: 5/3/21	GT 1 DB	GT
Start Test	1352	
Recorded Test	1355	
O2	13.4 %	
CO	1 PPM	
Eff	80.7 %	
CO2	4.2 %	
T-Stk	270 °F	
T-Air	78.5 °F	
EA	160.3 %	
CO (15)	1 PPM	
NO	18.6 PPM	
NO2	2.2 PPM	
NOX	20.8 PPM	
SO2	*** PPM	
NO (15)	15 PPM	
NOX (15)	16 PPM	
SO2 (15)	*** PPM	
Mega Watts	7.7	
KSCF/hour	40	

Signature:

Ken Williams
TEMP

Date: 5/3/21	BLR 2	B
Start Test	1355	
Recorded Test	1410	
O2	8.6 %	
CO	0 PPM	
Eff	98.1 %	
CO2	7.0 %	
T-Stk	91 °F	
T-Air	81.8 °F	
EA	61.9 %	
CO (15)	0 PPM	
NO	19.4 PPM	
NO2	0.0 PPM	
NOX	19.4 PPM	
SO2	*** PPM	
NO (15)	9 PPM	
NOX (15)	9 PPM	
SO2 (15)	*** PPM	
K lbs/hour	29	

Signature:

Ken Williams

GT 1 DB
BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 01:55:38 PM
Date: 05/03/21

Fuel
NGAS

O2: 13.4 %
CO 1 ppm
Eff 80.7 %
CO2 4.2 %
T-Stk 270 °F
T-Air 78.5 °F
EA 160.3 %
CO (15) 1 ppm
NO 18.6 ppm
NO2 2.2 ppm
NOx 20.8 ppm
NO (15) 15 ppm
NO2 (15) 2 ppm
NOx (15) 16 ppm
Flow 0.75 LPM

Comments:

MW: 7.7
KSCF/hr: 40

TEMP BOILER
BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:10:02 PM
Date: 05/03/21

Fuel
NGAS

O2: 8.6 %
CO 0 ppm
Eff 98.1 %
CO2 7.0 %
T-Stk 91 °F
T-Air 81.8 °F
EA 61.9 %
CO (15) 0 ppm
NO 19.4 ppm
NO2 0.0 ppm
NOx 19.4 ppm
NO (15) 9 ppm
NO2 (15) 0 ppm
NOx (15) 9 ppm
Flow 0.76 LPM

Comments:

Klbs/hr: 29

UTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

4 TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

2 6 T
NO DUCT
MW = 9.4

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 04:20:46 AM
Date: 05/06/21

Fuel
NGAS

O ₂	13.8 %
CO	2 ppm
Eff	75.9 %
CO ₂	4.0 %
T-Stk	339 °F
T-Air	69.8 °F
EA	173.0 %
CO (15)	2 ppm
NO	21 ppm
NO ₂	3 ppm
NO _x	25 ppm
SO ₂	*** ppm
NO (15)	18 ppm
NO ₂ (15)	3 ppm
NO _x (15)	20 ppm
SO ₂ (15)	*** ppm

Comments:

TEST RESULTS

TEST RESULTS

Date: 5/6/2021	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				0413
Recorded Test				0420
O ₂				13.8
CO				2 ppm
Eff				75.9 %
CO ₂				4.0 %
T-Stk				339 °F
T-Air				69.8 °F
EA				173.0 %
CO (15)				2 ppm
NO				21 ppm
NO ₂				3 ppm
NO _x				25 ppm
SO ₂				x x x
NO (15)				18 ppm
NO _x (15)				20 ppm
SO ₂ (15)				x x x
Mega Watts				9.4
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O ₂				
CO				
Eff				
CO ₂				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO ₂				
NO _x				
SO ₂				
NO (15)				
NO _x (15)				
SO ₂ (15)				
K lbs/hour				

Signature: _____

EMISSION TEST COLLEGE PARK ENERGY

2 GT
NO OJCT
MV = 9.4

Date: 5/6/2021	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				0413
Recorded Test				0420
O2				13.8
CO				2 PPM
Eff				75.9 %
CO2				4.0 %
T-Stk				339 °F
T-Air				69.8 °F
EA				173.0 %
CO (15)				2 PPM
NO				21 PPM
NO2				3 PPM
NOX				25 PPM
SO2				X X X
NO (15)				18 PPM
NOX (15)				20 PPM
SO2 (15)				X X X
Mega Watts				9.4
KSCF/hour				

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1008

Time: 04:20:48 AM
Date: 05/06/21

Fuel
NGAS

O2:	13.8 %
CO	2 ppm
Eff	75.9 %
CO2	4.0 %
T-Stk	339 °F
T-Air	69.8 °F
EA	173.0 %
CO (15)	2 ppm
NO	21 ppm
NO2	3 ppm
NOx	25 ppm
SO2	*** ppm
NO (15)	18 ppm
NO2 (15)	3 ppm
NOx (15)	20 ppm
SO2 (15)	*** ppm

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

Comments:

T TEST RESULTS

TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1450		
Recorded Test		1459		
O2		15.9%		
CO		5PPM		
Eff		74.2%		
CO2		2.9%		
T-Stk		293°F		
T-Air		72.9°F		
EA		250%		
CO (15)		6PPM		
NO		14.9 PPM		
NO2		4.4 PPM		
NOX		19.4 PPM		
SO2		###		
NO (15)		17PPM		
NOX (15)		23PPM		
SO2 (15)		###		
Mega Watts		8.75 MW		
KSCF/hour		17 KSCF		

Signature:

BSA SOUSA 5/6/21 *[Signature]*

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

#2 HRS6
DB



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:59:21 PM
Date: 05/06/21

Fuel
NGAS

O2	15.9 %
CO	5 ppm
Eff	74.2 %
CO2	2.9 %
T-Stk	293 °F
T-Air	72.9 °F
EA	250.0 %
CO (15)	6 ppm
NO	14.9 ppm
NO2	4.4 ppm
NOx	19.4 ppm
NO (15)	17 ppm
NO2 (15)	5 ppm
NOx (15)	23 ppm
Flow	0.75 LPM

Comments:

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: <u>5/7/21</u>	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		<u>0408</u>		<u>0408</u>
Recorded Test		<u>0414</u>		<u>0414</u>
O2				<u>14.1 %</u>
CO				<u>3 ppm</u>
Eff				<u>75.5 %</u>
CO2				<u>3.8 %</u>
T-Stk				<u>338 °F</u>
T-Air				<u>72.0 °F</u>
EA				<u>184.4 %</u>
CO (15)				<u>3 ppm</u>
NO				<u>20 ppm</u>
NO2				<u>4 ppm</u>
NOX				<u>23 ppm</u>
SO2				<u>XXX</u>
NO (15)				<u>17 ppm</u>
NOX (15)				<u>20 ppm</u>
SO2 (15)				<u>XXX</u>
Mega Watts				<u>9.1</u>
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

#2 6T

NO. 0005

4W-9.1

BACHARACH

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 04:14:02 AM

Date: 05/07/21

Fuel
NGAS

O2	14.1 %
CO	3 ppm
Eff	75.5 %
CO2	3.8 %
T-Stk	338 °F
T-Air	72.0 °F
EA	184.4 %
CO (15)	3 ppm
NO	20 ppm
NO2	4 ppm
NOx	23 ppm
SO2	*** ppm
NO (15)	17 ppm
NO2 (15)	3 ppm
NOx (15)	20 ppm
SO2 (15)	*** ppm

Comments: _____

THEN PRINT TEST RESULTS

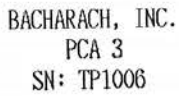
THEN PRINT TEST RESULTS

SHEET

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS



Time: 02:03:01 PM
Date: 05/07/21

Fuel
NGAS

O ₂	15.9 %
CO	0 ppm
Eff	67.6 %
CO ₂	2.8 %
T-Stk	384 °F
T-Air	79.5 °F
EA	250.0 %
CO (15)	0 ppm
NO	13 ppm
NO ₂	3 ppm
NO _x	15 ppm
SO ₂	ppm
NO (15)	15 ppm
NO ₂ (15)	3 ppm
NO _x (15)	18 ppm
SO ₂ (15)	ppm

Comments: 8.74 MW
8K5CFM

1 DB	GT 2 DB	GT1	GT2
			1358 1358
			1403
			15.9%
			0ppm
			67.6%
			28%
			384°F
			79.5°F
			250.0%
			0ppm
			13ppm
			3ppm
			15ppm

			15ppm
			18ppm

n Poirier AR

[illegible]

Signature:

EMISSION TEST COLLE

Date: 5/10/2021	GT 1 DB	GT 2 DB
Start Test	1254	
Recorded Test	1257	
O2	14.0%	
CO	1 PPM	
Eff	80.7%	
CO2	3.9%	
T-Stk	254 °F	
T-Air	74.2 °F	
EA	179.1%	
CO (15)	1 PPM	
NO	19.5 PPM	
NO2	3.0 PPM	
NOX	22.5 PPM	
SO2	*** PPM	
NO (15)	17 PPM	
NOX (15)	19 PPM	
SO2 (15)	*** PPM	
Mega Watts	15	
KSCF/hour	8.3	

Signature:

Ken Williams
TEMP

Date: 5/10/2021	BLR 2	BLR 4
Start Test	1200	
Recorded Test	1245	
O2	11.1%	
CO	1 PPM	
Eff	100.0%	
CO2	5.5%	
T-Stk	70 °F	
T-Air	70.8 °F	
EA	100.5%	
CO (15)	1 PPM	
NO	18.6 PPM	
NO2	1.2 PPM	
NOX	19.8 PPM	
SO2	*** PPM	
NO (15)	11 PPM	
NOX (15)	12 PPM	
SO2 (15)	*** PPM	
K lbs/hour	23	

Signature:

Ken Williams

GT 1 DB

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585Time: 12:57:14 PM
Date: 05/10/21Fuel
NGAS

O2:	14.0 %
CO	1 ppm
Eff	80.7 %
CO2	3.9 %
T-Stk	254 °F
T-Air	74.2 °F
EA	179.1 %
CO (15)	1 ppm
NO	19.5 ppm
NO2	3.0 ppm
NOx	22.5 ppm
NO (15)	17 ppm
NO2 (15)	3 ppm
NOx (15)	19 ppm
Flow	0.75 LPM

Comments:

MW : 15
KSCF : 8.3

TEMP BOILER

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585Time: 12:45:28 PM
Date: 05/10/21Fuel
NGAS

O2:	11.1 %
CO	1 ppm
Eff	100.0 %
CO2	5.5 %
T-Stk	70 °F
T-Air	70.8 °F
EA	100.5 %
CO (15)	1 ppm
NO	18.6 ppm
NO2	1.2 ppm
NOx	19.8 ppm
NO (15)	11 ppm
NO2 (15)	1 ppm
NOx (15)	12 ppm
Flow	0.76 LPM

Comments:

Klbs/hr : 23

UTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

4 TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 06:08:19 AM
Date: 05/11/21

Fuel
NGAS

O ₂	15.6 %
CO	1 ppm
Eff	28.0 %
CO ₂	3.0 %
T-Stk	937 °F
T-Air	77.4 °F
EA	250.0 %
CO (15)	1 ppm
NO	28 ppm
NO ₂	0 ppm
NO _x	28 ppm
SO ₂	31 ppm
NO (15)	31 ppm
NO ₂ (15)	0 ppm
NO _x (15)	31 ppm
SO ₂ (15)	31 ppm

Comments:

MAN- 10.1
DAT- 53'
Dad J. Green

IT TEST RESULTS

IT TEST RESULTS

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				06:00
Recorded Test				06:08
O ₂				15.6 %
CO				1 ppm
Eff				28.0 %
CO ₂				3.0 %
T-Stk				937 °F
T-Air				77.4 °F
EA				250.0 %
CO (15)				1 ppm
NO				28 ppm
NO ₂				0 ppm
NO _x				28 ppm
SO ₂				31 ppm
NO (15)				31 ppm
NO _x (15)				31 ppm
SO ₂ (15)				31 ppm
Mega Watts				10.1
KSCF/hour				

Signature:

Dad J. Green

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O ₂				
CO				
Eff				
CO ₂				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO ₂				
NO _x				
SO ₂				
NO (15)				
NO _x (15)				
SO ₂ (15)				
K lbs/hour				

Signature:

EMISSION TEST COLLEGE PARK ENERGY

672



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 06:13:19 PM
Date: 05/11/21

Fuel
NGAS

O ₂	15.7 %
CO	1 ppm
Eff	26.9 %
CO ₂	2.9 %
T-Stk	948 °F
T-Air	80.4 °F
EA	250.0 %
CO (15)	1 ppm
NO	28 ppm
NO ₂	0 ppm
NO _x	28 ppm
SO ₂	*** ppm
NO (15)	32 ppm
NO ₂ (15)	0 ppm
NO _x (15)	32 ppm
SO ₂ (15)	*** ppm

Comments: OAT 66°

MW 9.1

Evelyn Carter 23

HEEN PRINT TEST RESULTS

HEEN PRINT TEST RESULTS

SHEET

Date: 5/11/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				1808
Recorded Test				1813
O ₂				15.7 %
CO				1 ppm
Eff				26.9 %
CO ₂				2.9 %
T-Stk				948 °F
T-Air				80.4 °F
EA				250.0 %
CO (15)				1 ppm
NO				28 ppm
NO ₂				0 ppm
NO _x				28 ppm
SO ₂				***
NO (15)				32 ppm
NO _x (15)				32 ppm
SO ₂ (15)				***
Mega Watts				9.1
KSCF/hour				

Signature:

Evelyn Carter

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O ₂				
CO				
Eff				
CO ₂				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO ₂				
NO _x				
SO ₂				
NO (15)				
NO _x (15)				
SO ₂ (15)				
K lbs/hour				

Signature:

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

ION TEST COLLEGE PARK ENERGY

DB	GT 2 DB	GT1	GT2
			0637
			0637
			15.7%
			0ppm
			27.7%
			2.9%
			929°F
			74.7°F
			250.0%
			1ppm
			26ppm
			0ppm
			26ppm

			29ppm
			30ppm

			10.1 MW

in power AD

[illegible]

Signature:

EACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 06:37:03 AM
Date: 05/12/21 10:11 AM

Fuel
NGAS

O ₂	15.7 %
CO	0 ppm
Eff	27.7 %
CO ₂	2.9 %
T-Stk	929 °F
T-Air	74.7 °F
EA	250.0 %
CO (15)	1 ppm
NO	26 ppm
NO ₂	0 ppm
NO _x	26 ppm
SO ₂	ppm
NO (15)	29 ppm
NO ₂ (15)	0 ppm
NO _x (15)	30 ppm
SO ₂ (15)	ppm

Comments:

CO2
T-Stk
T-Air
EA
CO (15)
NO
NO2
NOX
SO2
NO (15)
NOX (15)
SO2 (15)
K lbs/hour

EMISSION TEST COLLEGE PARK ENERGY

1124007707-400

G12
BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:56:23 PM
Date: 05/12/21

Fuel
NGAS

O ₂	15.8 %
CO	0 ppm
Eff	26.2 %
CO ₂	2.9 %
T-Stk	946 °F
T-Air	82.9 °F
EA	250.0 %
CO (15)	1 ppm
NO	27 ppm
NO ₂	0 ppm
NOx	27 ppm
SO ₂	*** ppm
NO (15)	31 ppm
NO ₂ (15)	1 ppm
NOx (15)	31 ppm
SO ₂ (15)	*** ppm

Date: 5/12/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			1753	
Recorded Test	175		1756	
O2			15.8 %	
CO			0 PPM	
Eff			26.2 %	
CO2			2.9 %	
T-Stk			946 °F	
T-Air			82.9 °F	
EA			250.0 %	
CO (15)			1 PPM	
NO			27 PPM	
NO2			0 PPM	
NOX			27 PPM	
SO2			*** PPM	
NO (15)			31 PPM	
NOX (15)			31 PPM	
SO2 (15)			*** PPM	
Mega Watts			9.1	
KSCF/hour				

Signature: Ken Will

Comments:

MW : 9.1
KSCF/hr :

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

TESTS AND THEN PRINT TEST RESULTS

TESTS AND THEN PRINT TEST RESULTS

TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 5/13/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				1814
O2				1820
CO				15.8 %
Eff				0 PPM
CO2				70.6 %
T-Stk				2.9 %
T-Air				356 °F
EA				85.4 °F
CO (15)				250 %
NO				0 PPM
NO2				23 PPM
NOX				4 PPM
SO2				27 PPM
NO (15)				X X X
NOX (15)				26 PPM
SO2 (15)				31 PPM
Mega Watts				X X X
KSCF/hour				8.9

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

NO 2 NO 2004

MW 5.9

BACHARACH

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 06:20:28 PM

Date: 05/13/21

Fuel

NGAS

O2	15.8 %
CO	0 ppm
Eff	70.6 %
CO2	2.9 %
T-Stk	356 °F
T-Air	85.4 °F
EA	250.0 %
CO (15)	0 ppm
NO	23 ppm
NO2	4 ppm
NOx	27 ppm
SO2	*** ppm
NO (15)	26 ppm
NO2 (15)	5 ppm
NOx (15)	31 ppm
SO2 (15)	*** ppm

Comments: _____

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

SHEET

WITH OUT D-B

GT# 2
BACHARACH

Time: 04:55:16 AM
Date: 05/14/21

O ₂	15.8 %
CO	0 ppm
Eff	68.5 %
CO ₂	2.9 %
T-Stk	378 °F
T-Air	77.6 °F
EA	250.0 %
CO (15)	0 ppm
NO	18 ppm
NO ₂	3 ppm
NO _x	21 ppm
SO ₂	*** ppm
NO (15)	21 ppm
NO ₂ (15)	3 ppm
NO _x (15)	24 ppm
SO ₂ (15)	*** ppm

JOSH SOUSA *Josh Sousa*

Comments:

4 TO THIS SHEET

TESTS AND THEN PRINT TEST RESULTS

Signature:

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				05:00
Recorded Test				05:09
O2				15.9%
CO				0 PPM
Eff				66.4%
CO2				2.8%
T-Stk				401°F
T-Air				78.2°F
EA				250.0%
CO (15)				0 PPM
NO				19 PPM
NO2				3 PPM
NOX				22 PPM
SO2				***
NO (15)				22 PPM
NOX (15)				26 PPM
SO2 (15)				***
Mega Watts				9.55
KSCF/hour				

Signature:

JOSH SOUSA *[Signature]*

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

BACHARACH

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 05:09:45 AM

Date: 05/15/21

Fuel
NGAS

O2	15.9 %
CO	0 ppm
Eff	66.4 %
CO2	2.8 %
T-Stk	401 °F
T-Air	78.2 °F
EA	250.0 %
CO (15)	0 ppm
NO	19 ppm
NO2	3 ppm
NOx	22 ppm
SO2	*** ppm
NO (15)	22 ppm
NO2 (15)	4 ppm
NOx (15)	26 ppm
SO2 (15)	*** ppm

Comments:

MW=9.55
WITHOUT D.B

TES AND THEN PRINT TEST RESULTS

TES AND THEN PRINT TEST RESULTS

M TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 05/16/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				05:10
Recorded Test				05:22
O2				16.0%
CO				0 ppm
Eff				67.6%
CO2				2.8%
T-Stk				376°F
T-Air				77.5°F
EA				250.0%
CO (15)				0 ppm
NO				16 ppm
NO2				3 ppm
NOX				19 ppm
SO2				***
NO (15)				20 ppm
NOX (15)				23 ppm
SO2 (15)				***
Mega Watts				8.8 MW
KSCF/hour				

Signature:

JOSU SOUSA *[Signature]*

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

"120070717"

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:22:29 AM
Date: 05/16/21

Fuel
NGAS

O2	16.0 %
CO	0 ppm
Eff	67.6 %
CO2	2.8 %
T-Stk	376 °F
T-Air	77.5 °F
EA	250.0 %
CO (15)	0 ppm
NO	16 ppm
NO2	3 ppm
NOx	19 ppm
SO2	*** ppm
NO (15)	20 ppm
NO2 (15)	4 ppm
NOx (15)	23 ppm
SO2 (15)	*** ppm

Comments:

#2 GT NO
DB

HEN PRINT TEST RESULTS

HEN PRINT TEST RESULTS

HEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				0515
Recorded Test				0524
O2				15.8%
CO				0 PPM
Eff				68.7%
CO2				2.9%
T-Stk				370°F
T-Air				75°F
EA				250%
CO (15)				0 PPM
NO				14 PPM
NO2				4 PPM
NOX				23 PPM
SO2				4 PPM
NO (15)				22 PPM
NOX (15)				27 PPM
SO2 (15)				27 PPM
Mega Watts				9.44 MW
KSCF/hour				

Signature:

JOSH SOUSA *Josh Sousa*

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

05/17/21



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:24:11 AM
Date: 05/17/21

Fuel
NGAS

O2	15.8 %
CO	0 ppm
Eff	68.7 %
CO2	2.9 %
T-Stk	370 °F
T-Air	75.0 °F
EA	250.0 %
CO (15)	0 ppm
NO	19 ppm
NO2	4 ppm
NOx	23 ppm
SO2	*** ppm
NO (15)	22 ppm
NO2 (15)	4 ppm
NOx (15)	27 ppm
SO2 (15)	*** ppm

Comments:

#2 GT

NO DB 5/17/21

UTES AND THEN PRINT TEST RESULTS

AND THEN PRINT TEST RESULTS

TO THIS SHEET

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date: 05/17/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1730			1725
Recorded Test	1737			1730
O2	15.8%			15.9%
CO	5ppm			0ppm
Eff	70.9%			68.5%
CO2	2.9 %			2.8%
T-Stk	346°F			370°F
T-Air	80.1°F			76.7°F
EA	250.0 %			250 %
CO (15)	6ppm			0 ppm
NO	15ppm			17ppm
NO2	4ppm			3ppm
NOX	19ppm			19ppm
SO2	***			***
NO (15)	17ppm			20ppm
NOX (15)	22ppm			23ppm
SO2 (15)	***			***
Mega Watts	7.9 MW			8.4 MW
KSCF/hour	16KSCFH			

Signature:

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:37:26 PM
Date: 05/17/21

Fuel GT#1
NGAS 7.9 NW
16 KSCFH

O ₂	15.8 %
CO	5 ppm
Eff	70.9 %
CO ₂	2.9 %
T-Stk	346 °F
T-Air	80.1 °F
EA	250.0 %
CO (15)	6 ppm
NO	15 ppm
NO ₂	4 ppm
NO _x	19 ppm
SO ₂	*** ppm
NO (15)	17 ppm
NO ₂ (15)	5 ppm
NO _x (15)	22 ppm
SO ₂ (15)	*** ppm

Comments:



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 05:32:48 PM
Date: 05/17/21

Fuel GT#2
NGAS W/NO DB
8.4 NW

O ₂	15.9 %
CO	0 ppm
Eff	68.5 %
CO ₂	2.8 %
T-Stk	370 °F
T-Air	76.7 °F
EA	250.0 %
CO (15)	0 ppm
NO	17 ppm
NO ₂	3 ppm
NO _x	19 ppm
SO ₂	*** ppm
NO (15)	20 ppm
NO ₂ (15)	3 ppm
NO _x (15)	23 ppm
SO ₂ (15)	*** ppm

Comments:

EMISSION TEST COLLEGE PARK ENERGY

#N \$ **GT1** af?...
 BACHARACH, INC.
 PCA 3
 SN: TP1006

Time: 05:36:31 AM
 Date: 05/18/21

Fuel
 NGAS

O ₂	15.8 %
CO	0 ppm
Eff	68.5 %
CO ₂	2.9 %
T-Stk	375 °F
T-Air	78.1 °F
EA	250.0 %
CO (15)	1 ppm
NO	19 ppm
NO ₂	3 ppm
NO _x	22 ppm
SO ₂	22 ppm
NO (15)	4 ppm
NO ₂ (15)	26 ppm
NO _x (15)	*** ppm
SO ₂ (15)	*** ppm

Date: 5/18/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			0533	
Recorded Test			6536	
O2			15.8 %	
CO			0 PPM	
Eff			68.5 %	
CO2			2.9 %	
T-Stk			375 °F	
T-Air			78.1 °F	
EA			250.0 %	
CO (15)			1 PPM	
NO			19 PPM	
NO2			3 PPM	
NOX			22 PPM	
SO2			*** PPM	
NO (15)			22 PPM	
NOX (15)			26 PPM	
SO2 (15)			*** PPM	
Mega Watts			9.4	
KSCF/hour				

Signature: Ken Will

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

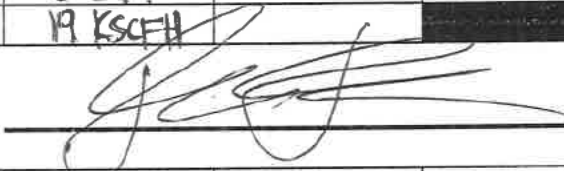
Comments:
 MW: 9.4

THIS SHEET
 AND THEN PRINT TEST RESULTS
 AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date: 05/24/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1347			1400
Recorded Test	1354			1407
O2	15.1 %			15.7%
CO	6 ppm			0 ppm
Eff	78.0 %			73.8%
CO2	3.3 %			2.9%
T-Stk	275°F			317°F
T-Air	80.8°F			86°F
EA	229.8 %			250 %
CO (15)	6 ppm			0 ppm
NO	12 ppm			16 ppm
NO2	5 ppm			3 ppm
NOX	17 ppm			19 ppm
SO2	* * *			* * *
NO (15)	12 ppm			18 ppm
NOX (15)	18 ppm			22 ppm
SO2 (15)	* * *			* * *
Mega Watts	8.3 MW			8.7 MW
KSCF/hour	19 KSCFH			

Signature:



Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 01:54:50 PM
Date: 05/24/21

GT#1
Fuel 8.3 MW
NGAS 19KSCFH

O ₂	15.1 %
CO	6 ppm
Eff	78.0 %
CO ₂	3.3 %
T-SIK	275 °F
T-AIR	80.8 °F
EA	229.8 %
CO(15)	6 ppm
NO	12 ppm
NO ₂	5 ppm
NO _x	17 ppm
SO ₂	*** ppm
NO(15)	12 ppm
NO ₂ (15)	5 ppm
NO _x (15)	18 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.31 inwc

Comments:



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 02:07:01 PM
Date: 05/24/21

GT#2
Fuel 8.7 MW
NGAS W/NO DB

O ₂	15.7 %
CO	0 ppm
Eff	73.8 %
CO ₂	2.9 %
T-SIK	317 °F
T-AIR	86.0 °F
EA	250.0 %
CO(15)	0 ppm
NO	16 ppm
NO ₂	3 ppm
NO _x	19 ppm
SO ₂	*** ppm
NO(15)	18 ppm
NO ₂ (15)	4 ppm
NO _x (15)	22 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.08 inwc

Comments:

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET


GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date: 05/31/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1249			1239
Recorded Test	1255			1245
O2	14.8 %			15.9 %
CO	4 ppm			0 ppm
Eff	76.5 %			74.8 %
CO2	3.4 %			2.8 %
T-Stk	309 °F			287 °F
T-Air	84.3 °F			76.7 °F
EA	217.2 %			250 %
CO (15)	4 ppm			0 ppm
NO	19 ppm			18 ppm
NO2	4 ppm			4 ppm
NOX	23 ppm			21 ppm
SO2	* * *			* * *
NO (15)	19 ppm			21 ppm
NOX (15)	22 ppm			25 ppm
SO2 (15)	* * *			* * *
Mega Watts	7.9 MW			8.3 MW
KSCF/hour	15 KSCFH			

Signature:



Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:





BACHARACH, INC.
PCA 2
SN: RP1001

Time: 12:55:12 PM
Date: 05/31/21

#1 GT
W/DB
Fuel 7.9 MW
NGAS 15 KSCFH

O ₂	14.8 %
CO	4 ppm
Eff	76.5 %
CO ₂	3.4 %
T-STK	309 °F
T-AIR	84.3 °F
EA	217.2 %
CO (15)	4 ppm
NO	19 ppm
NO ₂	4 ppm
NO _x	23 ppm
SO ₂	*** ppm
NO (15)	19 ppm
NO ₂ (15)	4 ppm
NO _x (15)	22 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.23 inwc

Comments:



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 12:45:57 PM
Date: 05/31/21

#2 GT
W/NO DB
Fuel 8.3 MW
NGAS

O ₂	15.9 %
CO	0 ppm
Eff	74.8 %
CO ₂	2.8 %
T-STK	287 °F
T-AIR	76.7 °F
EA	250.0 %
CO (15)	0 ppm
NO	18 ppm
NO ₂	4 ppm
NO _x	21 ppm
SO ₂	*** ppm
NO (15)	21 ppm
NO ₂ (15)	4 ppm
NO _x (15)	25 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.06 inwc

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date: 06/07/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0738			0745
Recorded Test	0744			0750
O2	13.3 %			15.9 %
CO	3ppm			0ppm
Eff	80 %			74.3 %
CO2	4.3 %			2.8 %
T-Stk	298 °F			312 °F
T-Air	90.2 °F			94.9 °F
EA	154.4 %			250 %
CO (15)	2ppm			0ppm
NO	22ppm			14ppm
NO2	2ppm			3ppm
NOX	24ppm			16ppm
SO2	***			***
NO (15)	17ppm			16ppm
NOX (15)	18ppm			19ppm
SO2 (15)	***			***
Mega Watts	7.2 MW			7.5 MW
KSCF/hour	32 KSCFH			

Signature:

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 07:44:49 AM #1GT
Date: 06/07/21 7-2 MW
Fuel 32KSCFH
NGAS

O ₂	13.3 %
CO	3 ppm
Eff	80.0 %
CO ₂	4.3 %
T-STK	298 °F
T-AIR	90.2 °F
EA	154.4 %
CO(15)	2 ppm
NO	22 ppm
NO ₂	2 ppm
NO _x	24 ppm
SO ₂	*** ppm
NO(15)	17 ppm
NO ₂ (15)	1 ppm
NO _x (15)	18 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.19 inwc

Comments:



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 07:50:00 AM #2GT
Date: 06/07/21 W/NO DB
Fuel 7.5 MW
NGAS

O ₂	15.9 %
CO	0 ppm
Eff	74.3 %
CO ₂	2.8 %
T-STK	312 °F
T-AIR	94.9 °F
EA	250.0 %
CO(15)	0 ppm
NO	14 ppm
NO ₂	3 ppm
NO _x	16 ppm
SO ₂	*** ppm
NO(15)	16 ppm
NO ₂ (15)	3 ppm
NO _x (15)	19 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.01 inwc

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date: 6/14/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1512			1516
Recorded Test	1515			1519
O2	15.1 %			16.1 %
CO	5 PPM			0 PPM
Eff	76.6 %			--- %
CO2	3.3 %			--- %
T-Stk	305 °F			293 °F
T-Air	91.3 °F			96.0 °F
EA	232.5 %			--- %
CO (15)	5 PPM			--- PPM
NO	14 PPM			14 PPM
NO2	3 PPM			2 PPM
NOX	17 PPM			17 PPM
SO2	*** PPM			*** PPM
NO (15)	15 PPM			--- PPM
NOX (15)	18 PPM			20.8 PPM
SO2 (15)	*** PPM			*** PPM
Mega Watts	6.9			7.0
KSCF/hour				

Signature:

Ken Will

Date: 6/14/21	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		1515		
Recorded Test		1530		
O2		5.5 %		
CO		0 PPM		
Eff		81.0 %		
CO2		8.7 %		
T-Stk		445 °F		
T-Air		102.3 °F		
EA		31.7 %		
CO (15)		0 PPM		
NO		84 PPM		
NO2		0 PPM		
NOX		84 PPM		
SO2		*** PPM		
NO (15)		32 PPM		
NOX (15)		32 PPM		
SO2 (15)		*** PPM		
K lbs/hour		34		

Signature:

Ken Will

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT1DB

BACHARACH

BACHARACH, INC.

PCA 2

SN: RP1001

Time: 03:15:08 PM
Date: 06/14/21

Fuel
NGAS

O ₂	15.1 %
CO	5 ppm
Eff	76.6 %
CO ₂	3.3 %
T-STK	305 °F
T-AIR	91.3 °F
EA	232.5 %
CO(15)	5 ppm
NO	14 ppm
NO ₂	3 ppm
NO _x	17 ppm
SO ₂	*** ppm
NO(15)	15 ppm
NO ₂ (15)	3 ppm
NO _x (15)	18 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.25 inwc

Comments:

mw: 6.9
RSCF: 0

GT2

BACHARACH

BACHARACH, INC.

PCA 2

SN: RP1001

Time: 03:19:51 PM
Date: 06/14/21

Fuel
NGAS

O ₂	16.1 %
CO	0 ppm
Eff	--- %
CO ₂	--- %
T-STK	293 °F
T-AIR	96.0 °F
EA	--- %
CO(15)	--- ppm
NO	14 ppm
NO ₂	2 ppm
NO _x	17 ppm
SO ₂	*** ppm
NO(15)	--- ppm
NO ₂ (15)	--- ppm
NO _x (15)	--- ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.06 inwc

Comments:

mw: 7.0

BLR4

BACHARACH

BACHARACH, INC.

PCA 2

SN: RP1001

Time: 03:30:10 PM
Date: 06/14/21

Fuel
NGAS

O ₂	5.5 %
CO	0 ppm
Eff	81.0 %
CO ₂	8.7 %
T-STK	445 °F
T-AIR	102.3 °F
EA	31.7 %
CO(15)	0 ppm
NO	84 ppm
NO ₂	0 ppm
NO _x	84 ppm
SO ₂	*** ppm
NO(15)	32 ppm
NO ₂ (15)	0 ppm
NO _x (15)	32 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.37 inwc

Comments:

Klbs/hr: 34

-%a

Hn
f. i

GT1 DB

BACHARACH, INC.
PCA 2
SN: RP1001

Time: 08:18:13 AM
Date: 06/21/21

Fuel
NGAS

O₂ 15.2 %
CO 6 ppm
Eff 75.8 %
CO₂ 3.2 %
T-STK 311 °F
T-AIR 87.2 °F
EA 234.5 %
CO(15) 6 ppm
NO 13 ppm
NO₂ 4 ppm
NO_x 16 ppm
SO₂ *** ppm
NO(15) 13 ppm
NO₂(15) 4 ppm
NO_x(15) 17 ppm
SO₂(15) *** ppm

Draft Reading
-0.22 inwc

Comments:

MW: 7.2

KSCF: 10

File

BACHARACH

BACHARACH, INC.
PCA 2
SN: RP1001

Time: 08:22:18 AM
Date: 06/21/21

Fuel
NGAS

O₂ 15.9 %
CO 0 ppm
Eff 74.8 %
CO₂ 2.8 %
T-STK 299 °F
T-AIR 90.5 °F
EA 250.0 %
CO(15) 0 ppm
NO 12 ppm
NO₂ 3 ppm
NO_x 14 ppm
SO₂ *** ppm
NO(15) 14 ppm
NO₂(15) 3 ppm
NO_x(15) 17 ppm
SO₂(15) *** ppm

Draft Reading
-0.05 inwc

Comments:

MW: 7.5

~~KSCF:~~

BLR4

BACHARACH

BACHARACH, INC.
PCA 2
SN: RP1001

Time: 08:35:50 AM
Date: 06/21/21

Fuel
NGAS

O₂ 5.9 %
CO 0 ppm
Eff 80.8 %
CO₂ 8.4 %
T-STK 442 °F
T-AIR 101.0 °F
EA 35.3 %
CO(15) 0 ppm
NO 64 ppm
NO₂ 0 ppm
NO_x 65 ppm
SO₂ *** ppm
NO(15) 25 ppm
NO₂(15) 0 ppm
NO_x(15) 26 ppm
SO₂(15) *** ppm

Draft Reading
-0.38 inwc

Comments:

Klbs/hr: 33

EMISSION TEST COLLEGE PARK ENERGY

Date: 6/21/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0815			0819
Recorded Test	0818			0822
O2	15.2%			15.9%
CO	6 PPM			0 PPM
Eff	75.8%			74.8%
CO2	3.2%			2.8%
T-Stk	311 °F			299 °F
T-Air	87.2 °F			90.5 °F
EA	234.5%			250.0%
CO (15)	6 PPM			0 PPM
NO	13 PPM			12 PPM
NO2	4 PPM			3 PPM
NOX	16 PPM			14 PPM
SO2	*** PPM			*** PPM
NO (15)	13 PPM			14 PPM
NOX (15)	17 PPM			17 PPM
SO2 (15)	*** PPM			*** PPM
Mega Watts	7.2			7.5
KSCF/hour	10			

Signature: Ken Will

Date: 6/21/21	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		0820		
Recorded Test		0835		
O2		5.9%		
CO		0 PPM		
Eff		80.8%		
CO2		8.4%		
T-Stk		442 °F		
T-Air		101.0 °F		
EA		35.3%		
CO (15)		0 PPM		
NO		64 PPM		
NO2		0 PPM		
NOX		65 PPM		
SO2		*** PPM		
NO (15)		25 PPM		
NOX (15)		26 PPM		
SO2 (15)		*** PPM		
K lbs/hour		33		

Signature: Ken Will

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 6/28/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1620			1624
Recorded Test	1623			1627
O2	15.1 %			16.1 %
CO	5 PPM			1 PPM
Eff	76.6 %			-- %
CO2	3.3 %			-- %
T-Stk	303 °F			301 °F
T-Air	87.8 °F			92.3 °F
EA	229.8 %			--- %
CO (15)	5 PPM			--- PPM
NO	16 PPM			14 PPM
NO2	4 PPM			2 PPM
NOX	20 PPM			16 PPM
SO2	*** PPM			*** PPM
NO (15)	16 PPM			
NOX (15)	20 PPM			19.5 PPM
SO2 (15)	*** PPM			*** PPM
Mega Watts	6.8			7
KSCF/hour	9			

Signature: Ken Wells

Date: 6/28/21	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		1625		
Recorded Test		1640		
O2		6.3 %		
CO		0 PPM		
Eff		81.2 %		
CO2		8.2 %		
T-Stk		426 °F		
T-Air		105.3 °F		
EA		38.6 %		
CO (15)		0 PPM		
NO		72 PPM		
NO2		0 PPM		
NOX		72 PPM		
SO2		*** PPM		
NO (15)		29 PPM		
NOX (15)		29 PPM		
SO2 (15)		*** PPM		
K lbs/hour		27		

Signature: Ken Wells

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT1DB

BACHARACH

BACHARACH, INC.
PCA 2
SN: RP1001

Time: 04:23:11 PM
Date: 06/28/21

Fuel
NGAS

O ₂	15.1 %
CO	5 ppm
Eff	76.6 %
CO ₂	3.3 %
T-STK	303 °F
T-AIR	87.8 °F
EA	229.8 %
CO (15)	5 ppm
NO	16 ppm
NO ₂	4 ppm
NO _x	20 ppm
SO ₂	*** ppm
NO (15)	16 ppm
NO ₂ (15)	4 ppm
NO _x (15)	20 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.23 inwc

Comments:

mw 6.8
9

GT2

BACHARACH

BACHARACH, INC.
PCA 2
SN: RP1001

Time: 04:27:51 PM
Date: 06/28/21

Fuel
NGAS

O ₂	16.1 %
CO	1 ppm
Eff	---
CO ₂	---
T-STK	301 °F
T-AIR	92.3 °F
EA	---
CO (15)	---
NO	14 ppm
NO ₂	2 ppm
NO _x	16 ppm
SO ₂	*** ppm
NO (15)	---
NO ₂ (15)	---
NO _x (15)	---
SO ₂ (15)	*** ppm

Draft Reading
-0.04 inwc

Comments:

mw 7

BLR4

BACHARACH

BACHARACH, INC.
PCA 2
SN: RP1001

Time: 04:40:46 PM
Date: 06/28/21

Fuel
NGAS

O ₂	6.3 %
CO	0 ppm
Eff	81.2 %
CO ₂	8.2 %
T-STK	426 °F
T-AIR	105.3 °F
EA	38.6 %
CO (15)	0 ppm
NO	72 ppm
NO ₂	0 ppm
NO _x	72 ppm
SO ₂	*** ppm
NO (15)	29 ppm
NO ₂ (15)	0 ppm
NO _x (15)	29 ppm
SO ₂ (15)	*** ppm

Draft Reading
-0.32 inwc

Comments:

27



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

October 12, 2021

Mr. Steve Lang
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite
#715 1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Mr. Lang & Director:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of July 1, 2021 through September 30, 2021.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Phil Riggs, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

University of Maryland- Combined Heating and Power Plant Facility July 2021

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	240.10	0.00	30081.52	0.00		705,550,000	0	737,970	0	0.0150	0.0000	0.0150	1.8199	0.0000	1.8199	0.0451	0.0000	0.0451	0.0902	0.0000	0.0902	0.0737	0.0000	0.0737	0.0737	0.0000	0.0737
Turbine 2	719.60	0.00	90181.81	0.00		909,100,000	0	950,873	0	0.0902	0.0000	0.0902	5.8167	0.0000	5.8167	0.6313	0.0000	0.6313	0.2705	0.0000	0.2705	0.1623	0.0000	0.1623	0.1623	0.0000	0.1623
Duct Burner 1	237.80		2552.12			80,160,000		83,843		0.0069		0.0069	0.0166		0.0166	0.0128		0.0128	0.0008		0.0008	0.0025		0.0025	0.0025		0.0025
Duct Burner 2	478.20		19642.94			210,380,000		220,047		0.0530		0.0530	0.1277		0.1277	0.0982		0.0982	0.0058		0.0058	0.0193		0.0193	0.0193		0.0193
Boiler 2	542.10	0.00	21095.77	0.00						0.0025	0.0000	0.0025	1.0722	0.0000	1.0722	0.0058	0.0000	0.0058	0.0062	0.0000	0.0062	0.0947	0.0000	0.0947	0.0947	0.0000	0.0947
Boiler 4	59.00	0.00	1447.59	0.00						0.0003	0.0000	0.0003	0.0742	0.0000	0.0742	0.0016	0.0000	0.0016	0.0004	0.0000	0.0004	0.0044	0.0000	0.0044	0.0044	0.0000	0.0044
Emerg. Gen.		0.00		0.00	10.5						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000
Mobile Boiler	57.30	0.00	0.38	0.00						0.0008	0.0000	0.0008	0.0071	0.0000	0.0071	0.0074	0.0000	0.0074	0.0001	0.0000	0.0001	0.0021	0.0000	0.0021	0.0021	0.0000	0.0021
Emissions Total										0.1687	0.0000	0.1687	8.9344	0.0000	8.9344	0.8022	0.0000	0.8022	0.3741	0.0000	0.3741	0.3590	0.0000	0.3590	0.3590	0.0000	0.3590

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		2.22	127.83	9.83	5.59	6.04	6.05
		OK	OK	OK	OK	OK	OK

University of Maryland- Combined Heating and Power Plant Facility August 2021

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	744.00	0.00	93235.98	0.00		794,690,000	0	831,206	0	0.0466	0.0000	0.0466	5.6408	0.0000	5.6408	0.1399	0.0000	0.1399	0.2797	0.0000	0.2797	0.2284	0.0000	0.2284	0.2284	0.0000	0.2284
Turbine 2	110.10	0.00	10815.12	0.00		865,110,000	0	904,862	0	0.0108	0.0000	0.0108	0.6976	0.0000	0.6976	0.0757	0.0000	0.0757	0.0324	0.0000	0.0324	0.0195	0.0000	0.0195	0.0195	0.0000	0.0195
Duct Burner 1	718.40		20385.57			99,650,000		104,229		0.0550		0.0550	0.1325		0.1325	0.1019		0.1019	0.0060		0.0060	0.0200		0.0200	0.0200		0.0200
Duct Burner 2	0.00		0.00			208,570,000		218,154		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000
Boiler 2	674.90	0.00	21505.78	0.00						0.0026	0.0000	0.0026	1.0930	0.0000	1.0930	0.0059	0.0000	0.0059	0.0063	0.0000	0.0063	0.0966	0.0000	0.0966	0.0966	0.0000	0.0966
Boiler 4	16.70	0.00	233.25	0.00						0.0000	0.0000	0.0000	0.0119	0.0000	0.0119	0.0003	0.0000	0.0003	0.0001	0.0000	0.0001	0.0007	0.0000	0.0007	0.0007	0.0000	0.0007
Emerg. Gen.		0.70		5.43	11.2						0.0002	0.0002		0.0087	0.0087		0.0023	0.0023		0.0000	0.0000		0.0002	0.0002		0.0002	0.0002
Mobile Boiler	30.90	0.00	0.13	0.00						0.0003	0.0000	0.0003	0.0025	0.0000	0.0025	0.0026	0.0000	0.0026	0.0000	0.0000	0.0000	0.0007	0.0000	0.0007	0.0007	0.0000	0.0007
Emissions Total										0.1153	0.0002	0.1155	7.5783	0.0087	7.5870	0.3263	0.0023	0.3286	0.3246	0.0000	0.3246	0.3659	0.0002	0.3661	0.3659	0.0002	0.3661

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		2.26	125.45	9.68	5.71	5.80	5.80
		OK	OK	OK	OK	OK	OK

University of Maryland- Combined Heating and Power Plant Facility September 2021

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	720.00	0.00	90171.35	0.00		880,900,000	0	921,377	0	0.0451	0.0000	0.0451	5.4554	0.0000	5.4554	0.1353	0.0000	0.1353	0.2705	0.0000	0.2705	0.2209	0.0000	0.2209	0.2209	0.0000	0.2209
Turbine 2	0.00	0.00	0.00	0.00		787,200,000	0	823,372	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Duct Burner 1	719.80		23774.44			122,380,000		128,003		0.0641		0.0641	0.1545		0.1545	0.1189		0.1189	0.0070		0.0070	0.0233		0.0233	0.0233		0.0233
Duct Burner 2	0.00		0.00			177,260,000		185,405		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000		0.0000	
Boiler 2	719.80	0.00	22675.15	0.00						0.0027	0.0000	0.0027	1.1524	0.0000	1.1524	0.0063	0.0000	0.0063	0.0067	0.0000	0.0067	0.1018	0.0000	0.1018	0.1018	0.0000	0.1018
Boiler 4	20.90	0.00	391.19	0.00						0.0001	0.0000	0.0001	0.0200	0.0000	0.0200	0.0004	0.0000	0.0004	0.0001	0.0000	0.0001	0.0012	0.0000	0.0012	0.0012	0.0000	0.0012
Emerg. Gen.		0.00		0.00	11.2						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Mobile Boiler	42.20	0.00	0.19	0.00						0.0004	0.0000	0.0004	0.0036	0.0000	0.0036	0.0038	0.0000	0.0038	0.0001	0.0000	0.0001	0.0011	0.0000	0.0011	0.0011	0.0000	0.0011
Emissions Total										0.1124	0.0000	0.1124	6.7860	0.0000	6.7860	0.2646	0.0000	0.2646	0.2844	0.0000	0.2844	0.3483	0.0000	0.3483	0.3483	0.0000	0.3483

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		2.19	125.44	9.13	5.63	5.72	5.72
		OK	OK	OK	OK	OK	OK

EMISSION TEST COLLEGE PA

Date: 07/05/21	GT 1 DB	GT 2 DB
Start Test		1243
Recorded Test		1247
O2		13.3 %
CO		3 PPM
Eff		81.9 %
CO2		4.3 %
T-Stk		259 °F
T-Air		86.9 °F
EA		155.7 %
CO (15)		2 PPM
NO		25 PPM
NO2		3 PPM
NOX		27 PPM
SO2		*** PPM
NO (15)		19 PPM
NOX (15)		21 PPM
SO2 (15)		*** PPM
Mega Watts		7.25
KSCF/hour		49

Signature:

Ken Williams

Date: 07/05/21	BLR 2	BLR 4	B
Start Test	1313		
Recorded Test	1328		
O2	4.9 %		
CO	0 PPM		
Eff	85.0 %		
CO2	9.0 %		
T-Stk	325 °F		
T-Air	114.8 °F		
EA	27.3 %		
CO (15)	0 PPM		
NO	60 PPM		
NO2	0 PPM		
NOX	60 PPM		
SO2	*** PPM		
NO (15)	22 PPM		
NOX (15)	22 PPM		
SO2 (15)	*** PPM		
K lbs/hour	30		

Signature:

Ken Williams

GT2 DB

BACHARACH

BACHARACH, INC.
PCA 2
SN: RP1001

Time: 12:47:18 PM
Date: 07/05/21

Fuel
NGAS

O2	13.3 %
CO	3 ppm
Eff	81.9 %
CO2	4.3 %
T-STK	259 °F
T-AIR	86.9 °F
EA	155.7 %
CO(15)	2 ppm
NO	25 ppm
NO2	3 ppm
NOx	27 ppm
SO2	*** ppm
NO(15)	19 ppm
NO2(15)	2 ppm
NOx(15)	21 ppm
SO2(15)	*** ppm

Draft Reading
-0.02 inwc

Comments:

MW: 7.25
KSCF: 49

BLR2

BACHARACH

BACHARACH, INC.
PCA 2
SN: RP1001

Time: 01:28:56 PM
Date: 07/05/21

Fuel
NGAS

O2	4.9 %
CO	0 ppm
Eff	85.0 %
CO2	9.0 %
T-STK	325 °F
T-AIR	114.8 °F
EA	27.3 %
CO(15)	0 ppm
NO	60 ppm
NO2	0 ppm
NOx	60 ppm
SO2	*** ppm
NO(15)	22 ppm
NO2(15)	0 ppm
NOx(15)	22 ppm
SO2(15)	*** ppm

Draft Reading
-0.60 inwc

Comments:

K lbs/hr: 30

EEN PRINT TEST RESULTS

EEN PRINT TEST RESULTS

EET

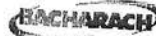
EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test	See	10:24
Recorded Test		10:29
O2		13.3%
CO		5 ppm
Eff		81.5%
CO2		4.3%
T-Stk		210.3°F
T-Air		83.8°F
EA		154.9%
CO (15)		4 ppm
NO		21 ppm
NO2		3 ppm
NOX		24 ppm
SO2		***
NO (15)		16 ppm
NOX (15)		18 ppm
SO2 (15)		***
Mega Watts		7.4 MW
KSCF/hour		416 KSCF

Signature: _____

Date:	BLR 2	BLR 4
Start Test	10:40	See
Recorded Test	10:55	
O2	5.5%	
CO	1 ppm	
Eff	84.9%	
CO2	8.7%	
T-Stk	315°F	
T-Air	106.2°F	
EA	31.6%	
CO (15)	0 ppm	
NO	49 ppm	
NO2	0 ppm	
NOX	49 ppm	
SO2	***	
NO (15)	19 ppm	
NOX (15)	19 ppm	
SO2 (15)	***	
K lbs/hour	24.23	

Signature: _____



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 10:29:36 AM
Date: 07/12/21

Fuel
NGAS

O2:	13.3 %
CO	5 ppm
Eff	81.5 %
CO2	4.3 %
T-STK	263 °F
T-AIR	83.8 °F
EA	154.9 %
CO (15)	4 ppm
NO	21 ppm
NO2	3 ppm
NOx	24 ppm
SO2	*** ppm
NO (15)	16 ppm
NO2 (15)	2 ppm
NOx (15)	18 ppm
SO2 (15)	*** ppm

Draft Reading
-0.02 inwc

Comments: HRSG #2
W/ DB.



BACHARACH, INC.
PCA 2
SN: RP1001

Time: 10:55:01 AM
Date: 07/12/21

Fuel
NGAS

O2:	5.5 %
CO	1 ppm
Eff	84.9 %
CO2	8.7 %
T-STK	315 °F
T-AIR	106.2 °F
EA	31.6 %
CO (15)	0 ppm
NO	49 ppm
NO2	0 ppm
NOx	49 ppm
SO2	*** ppm
NO (15)	19 ppm
NO2 (15)	0 ppm
NOx (15)	19 ppm
SO2 (15)	*** ppm

Draft Reading
-0.69 inwc

Comments: Boiler #2

TEST RESULTS

TEST RESULTS



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 10:25:00 AM
Date: 07/19/21

Fuel
NGAS

O ₂	11.6 %
CO	1 ppm
Eff	82.5 %
CO ₂	5.2 %
T-Stk	294 °F
T-Air	102.6 °F
EA	111.2 %
CO (15)	0 ppm
NO	38 ppm
NO ₂	1 ppm
NO _x	39 ppm
SO ₂	*** ppm
NO (15)	24 ppm
NO ₂ (15)	1 ppm
NO _x (15)	25 ppm
SO ₂ (15)	*** ppm

Comments:

#2 BOILER
12KPPH



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 09:57:43 AM
Date: 07/19/21

Fuel
NGAS

O ₂	13.8 %
CO	4 ppm
Eff	80.4 %
CO ₂	4.0 %
T-Stk	269 °F
T-Air	80.6 °F
EA	171.2 %
CO (15)	3 ppm
NO	20 ppm
NO ₂	3 ppm
NO _x	23 ppm
SO ₂	*** ppm
NO (15)	17 ppm
NO ₂ (15)	2 ppm
NO _x (15)	19 ppm
SO ₂ (15)	*** ppm

Comments:

#2 GT w/DB
7.6 MW
38 KSCFH

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date: 07/19/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		0950		
Recorded Test		0957		
O2		13.8 %		
CO		4 ppm		
Eff		80.4 %		
CO2		4 %		
T-Stk		269 °F		
T-Air		80.6 °F		
EA		171.2 %		
CO (15)		3 ppm		
NO		20 ppm		
NO2		3 ppm		
NOX		23 ppm		
SO2		* * *		
NO (15)		17 ppm		
NOX (15)		19 ppm		
SO2 (15)		* * *		
Mega Watts		7.6 MW		
KSCF/hour		38 KSCFH		

Signature:

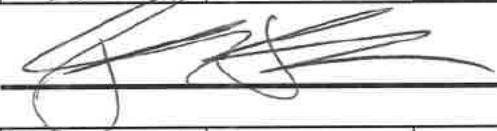
Date: 07/19/21	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1006			
Recorded Test	1025			
O2	11.6 %			
CO	1 ppm			
Eff	82.5 %			
CO2	5.2 %			
T-Stk	294 °F			
T-Air	102.6 °F			
EA	111.2 %			
CO (15)	0 ppm			
NO	38 ppm			
NO2	1 ppm			
NOX	39 ppm			
SO2	* * *			
NO (15)	24 ppm			
NOX (15)	25 ppm			
SO2 (15)	* * *			
K lbs/hour	12 KPPH			

Signature:

EMISSION TEST COLLEGE PARK ENERGY

Date: 07/26/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0910			0903
Recorded Test	0916			0909
O2	14.8%			16.0%
CO	4ppm			0ppm
Eff	76.8%			73.5%
CO2	3.4%			2.8%
T-Stk	312°F			307°F
T-Air	92.9°F			82.7°F
EA	216.9%			250%
CO (15)	4ppm			0ppm
NO	10ppm			8ppm
NO2	2ppm			2ppm
NOX	13ppm			11ppm
SO2	***			***
NO (15)	10ppm			10ppm
NOX (15)	12ppm			13ppm
SO2 (15)	***			***
Mega Watts	7.1 MW			7.3 MW
KSCF/hour	20KSCFH			

Signature:



Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:



Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 09:16:52 AM
Date: 07/26/21

#1GT
Fuel W/DB
NGAS 7.1 MW
20KSCFH

O ₂	14.8 %
CO	4 ppm
Eff	76.8 %
CO ₂	3.4 %
T-Stk	312 °F
T-Air	92.9 °F
EA	216.9 %
CO(15)	4 ppm
NO	10 ppm
NO ₂	2 ppm
NO _x	13 ppm
SO ₂	*** ppm
NO(15)	10 ppm
NO ₂ (15)	2 ppm
NO _x (15)	12 ppm
SO ₂ (15)	*** ppm

Comments:

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 09:09:07 AM
Date: 07/26/21

#2GT
Fuel 7.3 MW
NGAS W/O DB

O ₂	16.0 %
CO	0 ppm
Eff	73.5 %
CO ₂	2.8 %
T-Stk	307 °F
T-Air	82.7 °F
EA	250.0 %
CO(15)	0 ppm
NO	8 ppm
NO ₂	2 ppm
NO _x	11 ppm
SO ₂	*** ppm
NO(15)	10 ppm
NO ₂ (15)	3 ppm
NO _x (15)	13 ppm
SO ₂ (15)	*** ppm

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date: 08/02/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1241			1230
Recorded Test	1248			1239
O2	14.5%			16%
CO	3ppm			0ppm
Eff	78.1%			74.8%
CO2	3.6%			2.8%
T-Stk	303°F			291°F
T-Air	93.5°F			85.6°F
EA	202%			250%
CO (15)	3ppm			0ppm
NO	18ppm			14ppm
NO2	3ppm			3ppm
NOX	20ppm			17ppm
SO2	***			***
NO (15)	16ppm			17ppm
NOX (15)	19ppm			21ppm
SO2 (15)	***			***
Mega Watts	7.4 MW			7.5 MW
KSCF/hour	18KSCFH			

Signature:



Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 12:39:25 PM #2GT
Date: 08/02/21 W/O DB
Fuel 7.5 MW
NGAS

O ₂	16.0 %
CO	0 ppm
Eff	74.8 %
CO ₂	2.8 %
T-Stk	291 °F
T-Air	85.6 °F
EA	250.0 %
CO(15)	0 ppm
NO	14 ppm
NO ₂	3 ppm
NO _x	17 ppm
SO ₂	*** ppm
NO(15)	17 ppm
NO ₂ (15)	3 ppm
NO _x (15)	21 ppm
SO ₂ (15)	*** ppm

Comments:



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 12:48:16 PM #1GT
Date: 08/02/21 W/O DB
Fuel 7.4 MW
NGAS 18 KSCFH

O ₂	14.5 %
CO	3 ppm
Eff	78.1 %
CO ₂	3.6 %
T-Stk	303 °F
T-Air	93.5 °F
EA	202.0 %
CO(15)	3 ppm
NO	18 ppm
NO ₂	3 ppm
NO _x	20 ppm
SO ₂	*** ppm
NO(15)	16 ppm
NO ₂ (15)	2 ppm
NO _x (15)	19 ppm
SO ₂ (15)	*** ppm

Comments:

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date: 08/09/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1925			
Recorded Test	1936			
O2	14.0%			
CO	3 PPM			
Eff	80.1%			
CO2	3.9%			
T-Stk	266°F			
T-Air	77.1°F			
EA	180.9%			
CO (15)	3 PPM			
NO	0 PPM			
NO2	3 PPM			
NOX	3 PPM			
SO2	* * *			
NO (15)	0 PPM			
NOX (15)	2 PPM			
SO2 (15)	* * *			
Mega Watts	7.6 MW			
KSCF/hour	38 KSCF/hr			

Signature: _____

Date: 08/09/21	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1750			
Recorded Test	1806			
O2	5.1%			
CO	0 PPM			
Eff	84.5%			
CO2	8.9%			
T-Stk	310°F			
T-Air	83.4°F			
EA	28.7%			
CO (15)	0 PPM			
NO	41 PPM			
NO2	1 PPM			
NOX	42 PPM			
SO2	* * *			
NO (15)	15 PPM			
NOX (15)	16 PPM			
SO2 (15)	* * *			
K lbs/hour	38 KPPH			

Signature: _____

HARACH, INC.

PCA 3

SN: TP1006

Time: 06:06:03 PM

Date: 08/09/21

Fuel
NGAS

O ₂	5.1 %
CO	0 ppm
Eff	84.5 %
CO ₂	8.9 %
T-Stk	310 °F
T-Air	83.4 °F
EA	28.7 %
CO (15)	0 ppm
NO	41 ppm
NO ₂	1 ppm
NO _x	42 ppm
SO ₂	*** ppm
NO (15)	15 ppm
NO ₂ (15)	0 ppm
NO _x (15)	16 ppm
SO ₂ (15)	*** ppm

Comments:

#1 BOILER

BACHARACH

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 07:36:31 PM

Date: 08/09/21

Fuel
NGAS

O ₂	14.0 %
CO	3 ppm
Eff	80.1 %
CO ₂	3.9 %
T-Stk	266 °F
T-Air	77.1 °F
EA	180.9 %
CO (15)	3 ppm
NO	0 ppm
NO ₂	3 ppm
NO _x	3 ppm
SO ₂	*** ppm
NO (15)	0 ppm
NO ₂ (15)	2 ppm
NO _x (15)	2 ppm
SO ₂ (15)	*** ppm

Comments:

EMISSION TEST

Date: 8/16/21	GT 1 DB	
Start Test	1429	
Recorded Test	1432	
O2	14.1 %	
CO	3 PPM	
Eff	79.5 %	
CO2	3.9 %	
T-Stk	278 °F	
T-Air	81.4 °F	
EA	183.7 %	
CO (15)	2 PPM	
NO	0 PPM	
NO2	3 PPM	
NOX	3 PPM	
SO2	*+* PPM	
NO (15)	0 PPM	
NOX (15)	3 PPM	
SO2 (15)	*+* PPM	
Mega Watts	7.2	
KSCF/hour	26	

Signature:

Ken Will

Date: 8/16/21	BLR 2	
Start Test	1452	
Recorded Test	1507	
O2	6.6 %	
CO	0 PPM	
Eff	85.2 %	
CO2	8.1 %	
T-Stk	290 °F	
T-Air	103.0 °F	
EA	40.7 %	
CO (15)	0 PPM	
NO	22 PPM	
NO2	0 PPM	
NOX	22 PPM	
SO2	*+* PPM	
NO (15)	9 PPM	
NOX (15)	9 PPM	
SO2 (15)	*+* PPM	
K lbs/hour	19	

Signature:

Ken Will

GT 1 DB

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:32:35 PM
Date: 08/16/21

Fuel
NGAS

O2: 14.1 %
CO 3 ppm
Eff 79.5 %
CO2 3.9 %
T-Stk 278 °F
T-Air 81.4 °F
EA 183.7 %
CO (15) 2 ppm
NO 0 ppm
NO2 3 ppm
NOx 3 ppm
SO2 *** ppm
NO (15) 0 ppm
NO2 (15) 3 ppm
NOx (15) 3 ppm
SO2 (15) *** ppm

Comments:

MW: 7.2
KSCF: 26

GT2

BLR 2

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 03:07:58 PM
Date: 08/16/21

Fuel
NGAS

O2: 6.6 %
CO 0 ppm
Eff 85.2 %
CO2 8.1 %
T-Stk 290 °F
T-Air 103.0 °F
EA 40.7 %
CO (15) 0 ppm
NO 22 ppm
NO2 0 ppm
NOx 22 ppm
SO2 *** ppm
NO (15) 9 ppm
NO2 (15) 0 ppm
NOx (15) 9 ppm
SO2 (15) *** ppm

Comments:

19

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

SHEET

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test	1120	
Recorded Test	1131	
O2	14.2%	
CO	3 PPM	
Eff	80.2%	
CO2	3.8%	
T-Stk	275°F	
T-Air	92.1°F	
EA	187.9%	
CO (15)	2 PPM	
NO	14 PPM	
NO2	3 PPM	
NOX	16 PPM	
SO2	AAA	
NO (15)	12 PPM	
NOX (15)	14 PPM	
SO2 (15)	AAA	
Mega Watts	6.77	
KSCF/hour	33 KSCF	

Signature:

John Sousa

Date:	BLR 2	BLR 4
Start Test	1140	
Recorded Test	1159	
O2	5.8%	
CO	6 PPM	
Eff	85.5%	
CO2	8.5%	
T-Stk	292°F	
T-Air	108.9°F	
EA	34.4%	
CO (15)	2 PPM	
NO	24 PPM	
NO2	2 PPM	
NOX	25 PPM	
SO2	AAA	
NO (15)	9 PPM	
NOX (15)	10 PPM	
SO2 (15)	AAA	
K lbs/hour	17 KPPH	

Signature:

John Sousa JOHN SOUSA

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:31:03 AM
Date: 08/23/21

Fuel
NGAS

O2:	14.2 %
CO	3 ppm
Eff	80.2 %
CO2	3.8 %
T-Stk	275 °F
T-Air	92.1 °F
EA	187.9 %
CO (15)	2 ppm
NO	14 ppm
NO2	3 ppm
NOx	16 ppm
SO2	*** ppm
NO (15)	12 ppm
NO2 (15)	2 ppm
NOx (15)	14 ppm
SO2 (15)	*** ppm

Comments:

#1 GT/HRSG

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 11:59:10 AM
Date: 08/23/21

Fuel
NGAS

O2:	5.8 %
CO	6 ppm
Eff	85.5 %
CO2	8.5 %
T-Stk	292 °F
T-Air	108.9 °F
EA	34.4 %
CO (15)	2 ppm
NO	24 ppm
NO2	2 ppm
NOx	25 ppm
SO2	*** ppm
NO (15)	9 ppm
NO2 (15)	1 ppm
NOx (15)	10 ppm
SO2 (15)	*** ppm

Comments:

#2 BOILER

D THEN PRINT TEST RESULTS

E THEN PRINT TEST RESULTS

SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 8/30/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1400			
Recorded Test	1409			
O2	15.7%			
CO	2 ppm			
Eff	72.6%			
CO2	3.0%			
T-Stk	344°F			
T-Air	95.0°F			
EA	250.0%			
CO (15)	2 ppm			
NO	14 ppm			
NO2	2 ppm			
NOX	15 ppm			
SO2	*** ppm			
NO (15)	15 ppm			
NOX (15)	17 ppm			
SO2 (15)	*** ppm			
Mega Watts	6.65			
KSCF/hour	27			

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1428			
Recorded Test	1438			
O2	5.7%			
CO	2 ppm			
Eff	85.2%			
CO2	8.6%			
T-Stk	294°F			
T-Air	97.6°F			
EA	33.1%			
CO (15)	1 ppm			
NO	40 ppm			
NO2	3 ppm			
NOX	43 ppm			
SO2	*** ppm			
NO (15)	15 ppm			
NOX (15)	17 ppm			
SO2 (15)	*** ppm			
K lbs/hour	22 kpph			

Signature: _____

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:09:25 PM
Date: 08/30/21

Fuel
NGAS

O ₂	15.7 %
CO	2 ppm
Eff	72.6 %
CO ₂	3.0 %
T-Stk	344 °F
T-Air	95.0 °F
EA	250.0 %
CO(15)	2 ppm
NO	14 ppm
NO ₂	2 ppm
NO _x	15 ppm
SO ₂	*** ppm
NO(15)	15 ppm
NO ₂ (15)	2 ppm
NO _x (15)	17 ppm
SO ₂ (15)	*** ppm

Comments:

MW 6.65 MW



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:28:58 PM
Date: 08/30/21

Fuel
NGAS

O ₂	5.7 %
CO	2 ppm
Eff	85.2 %
CO ₂	8.6 %
T-Stk	294 °F
T-Air	97.6 °F
EA	33.1 %
CO(15)	1 ppm
NO	40 ppm
NO ₂	3 ppm
NO _x	43 ppm
SO ₂	*** ppm
NO(15)	15 ppm
NO ₂ (15)	1 ppm
NO _x (15)	17 ppm
SO ₂ (15)	*** ppm

Comments:

This is actually GT1 not GT 2

GT #1 w/ DB

EMISSION TEST

Date: 09/06/21	GT1 DB
Start Test	0903
Recorded Test	0906
O2	13.6 %
CO	3 ppm
Eff	80.5 %
CO2	4.1 %
T-Stk	278 °F
T-Air	85.9 °F
EA	165.0 %
CO (15)	2 ppm
NO	21 ppm
NO2	3 ppm
NOX	24 ppm
SO2	*** ppm
NO (15)	17 ppm
NOX (15)	19 ppm
SO2 (15)	*** ppm
Mega Watts	7.3
KSCF/hour	37

Signature:

Ken Will

Date: 09/06/21	BLR 2
Start Test	0941
Recorded Test	0956
O2	5.9 %
CO	4 ppm
Eff	85.1 %
CO2	8.5 %
T-Stk	293 °F
T-Air	97.1 °F
EA	34.8 %
CO (15)	1 ppm
NO	38 ppm
NO2	3 ppm
NOX	41 ppm
SO2	*** ppm
NO (15)	15 ppm
NOX (15)	16 ppm
SO2 (15)	*** ppm
K lbs/hour	20

Signature:

Ken Will

h/t/v/a

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 09:37:47 AM

Date: 09/06/21

Fuel
NGAS

O2	13.6 %
CO	3 ppm
Eff	80.5 %
CO2	4.1 %
T-Stk	278 °F
T-Air	85.9 °F
EA	165.0 %
CO (15)	2 ppm
NO	21 ppm
NO2	3 ppm
NOx	24 ppm
SO2	*** ppm
NO (15)	17 ppm
NO2 (15)	2 ppm
NOx (15)	19 ppm
SO2 (15)	*** ppm

Comments:

7.3
37

BLR 2

BACHARACH

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 09:58:09 AM

Date: 09/06/21

Fuel
NGAS

O2	5.9 %
CO	4 ppm
Eff	85.1 %
CO2	8.5 %
T-Stk	293 °F
T-Air	97.1 °F
EA	34.8 %
CO (15)	1 ppm
NO	38 ppm
NO2	3 ppm
NOx	41 ppm
SO2	*** ppm
NO (15)	15 ppm
NO2 (15)	1 ppm
NOx (15)	16 ppm
SO2 (15)	*** ppm

Comments:

20

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

EMISSION TEST COLLEGE

ate: 9/13/21	GT 1 DB	GT 2 DB
Start Test	1429	
Recorded Test	1435	
O2	14.0%	
CO	2 ppm	
Eff	81.1%	
CO2	3.9%	
T-Stk	262°F	
T-Air	89.6°F	
EA	180.3%	
CO (15)	2 ppm	
NO	17 ppm	
NO2	2 ppm	
NOx	19 ppm	
SO2	***	
CO (15)	15 ppm	
NOx (15)	16 ppm	
SO2 (15)	***	
giga Watts	6.9	
CF/hour	28 kcf	

nature:

BLR 2	BLR 4
Start Test	1444
Recorded Test	1450
	11.1%
	8 ppm
	84.4%
	5.6%
	256°F
	100.2°F
	99.9%
(15)	5 ppm
	23 ppm
	5 ppm
	27 ppm

(15)	14 ppm
(15)	16 ppm
15	***
hour	20

ture:

.....
.....
.....

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:29:41 PM
Date: 09/13/21

Fuel
NGAS

O2:	14.0 %
CO	2 ppm
Eff	81.1 %
CO2	3.9 %
T-Stk	262 °F
T-Air	89.6 °F
EA	180.3 %
CO (15)	2 ppm
NO	17 ppm
NO2	2 ppm
NOx	19 ppm
SO2	*** ppm
NO (15)	15 ppm
NO2 (15)	2 ppm
NOx (15)	16 ppm
SO2 (15)	*** ppm

Comments:

BACHARACH

BACHARACH, INC.
PCA 3
SN: TP1006

Time: 02:44:30 PM
Date: 09/13/21

Fuel
NGAS

O2:	11.1 %
CO	8 ppm
Eff	84.4 %
CO2	5.6 %
T-Stk	256 °F
T-Air	100.2 °F
EA	99.9 %
CO (15)	5 ppm
NO	23 ppm
NO2	5 ppm
NOx	27 ppm
SO2	*** ppm
NO (15)	14 ppm
NO2 (15)	3 ppm
NOx (15)	16 ppm
SO2 (15)	*** ppm

Comments:

THIS SHEET

ND THEN PRINT TEST RESULTS

INT TEST RESULTS

EMISSION TEST COI

Date: 9/20/21	GT 1 DB	GT 2
Start Test	1500	
Recorded Test	1503	
O2	13.5 %	
CO	3 PPM	
Eff	80.8 %	
CO2	4.2 %	
T-Stk	273 °F	
T-Air	85.6 °F	
EA	163.6 %	
CO (15)	2 PPM	
NO	22 PPM	
NO2	3 PPM	
NOX	24 PPM	
SO2	*** PPM	
NO (15)	17 PPM	
NOX (15)	19 PPM	
SO2 (15)	*** PPM	
Mega Watts	7.4	
KSCF/hour	37	

Signature: Ken Wall

Date: 9/20/21	BLR 2	BLR 2
Start Test	1512	
Recorded Test	1527	
O2	7.5 %	
CO	26 PPM	
Eff	84.9 %	
CO2	7.6 %	
T-Stk	285 °F	
T-Air	99.0 °F	
EA	49.5 %	
CO (15)	12 PPM	
NO	31 PPM	
NO2	10 PPM	
NOX	41 PPM	
SO2	*** PPM	
NO (15)	14 PPM	
NOX (15)	18 PPM	
SO2 (15)	*** PPM	
K lbs/hour	18	

Signature: Ken Wall

GT 1 DB



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 03:03:11 PM
Date: 09/20/21

Fuel
NGAS

O2: 13.5 %
CO 3 ppm
Eff 80.8 %
CO2 4.2 %
T-Stk 273 °F
T-Air 85.6 °F
EA 163.6 %
CO (15) 2 ppm
NO 22 ppm
NO2 3 ppm
NOx 24 ppm
SO2 *** ppm
NO (15) 17 ppm
NO2 (15) 2 ppm
NOx (15) 19 ppm
SO2 (15) *** ppm

Comments:

MW: 7.4
KSCF/hr: 37

BLR 2



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 03:27:30 PM
Date: 09/20/21

Fuel
NGAS

O2: 7.5 %
CO 26 ppm
Eff 84.9 %
CO2 7.6 %
T-Stk 285 °F
T-Air 99.0 °F
EA 49.5 %
CO (15) 12 ppm
NO 31 ppm
NO2 10 ppm
NOx 41 ppm
SO2 *** ppm
NO (15) 14 ppm
NO2 (15) 4 ppm
NOx (15) 18 ppm
SO2 (15) *** ppm

Comments:

K lbs/hr: 18

N PRINT TEST RESULTS

N PRINT TEST RESULTS

JET

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature:

MOBILE

Date: 9/21/21	BLR 2	BLR 4
Start Test	1540	1504
Recorded Test	1555	1519
O2	7.8 %	6.4 %
CO	1 ppm	0 ppm
Eff	81.8 %	82.0 %
CO2	7.4 %	8.2 %
T-Stk	375 °F	396 °F
T-Air	98.0 °F	104.9 °F
EA	53.0 %	39.2 %
CO (15)	0 ppm	0 ppm
NO	25 ppm	57 ppm
NO2	0 ppm	0 ppm
NOX	25 ppm	57 ppm
SO2	*** ppm	*** ppm
NO (15)	11 ppm	23 ppm
NOX (15)	11 ppm	23 ppm
SO2 (15)	*** ppm	*** ppm
K lbs/hour	12	10

Signature:

Kenneth Will

?~t~n~

MOBILE
~~TEMAP~~

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 03:55:52 PM

Date: 09/21/21

Fuel
NGAS

O2 7.8 %
 CO 1 ppm
 Eff 81.8 %
 CO2 7.4 %
 T-Stk 375 °F
 T-Air 98.0 °F
 EA 53.0 %
 CO (15) 0 ppm
 NO 25 ppm
 NO2 0 ppm
 NOx 25 ppm
 SO2 *** ppm
 NO (15) 11 ppm
 NO2 (15) 0 ppm
 NOx (15) 11 ppm
 SO2 (15) *** ppm

Comments:

Klbs/hr: 12

=====JTI

BLR 4

BACHARACH

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 03:19:17 PM

Date: 09/21/21

Fuel
NGAS

O2 6.4 %
 CO 0 ppm
 Eff 82.0 %
 CO2 8.2 %
 T-Stk 396 °F
 T-Air 104.9 °F
 EA 39.2 %
 CO (15) 0 ppm
 NO 57 ppm
 NO2 0 ppm
 NOx 57 ppm
 SO2 *** ppm
 NO (15) 23 ppm
 NO2 (15) 0 ppm
 NOx (15) 23 ppm
 SO2 (15) *** ppm

Comments:

Klbs/hr: 10

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

SHEET

EMISSION TEST COLLEGE PA

Date:	GT 1 DB	GT 2 DB
Start Test	0835	
Recorded Test	0845	
O2	13.7%	
CO	3PPM	
Eff	80.1%	
CO2	4.1%	
T-Stk	275°F	
T-Air	79.1°F	
EA	169.6%	
CO (15)	2 PPM	
NO	20 PPM	
NO2	3 PPM	
NOX	23 PPM	
SO2	***	
NO (15)	17 PPM	
NOX (15)	19 PPM	
SO2 (15)	***	
Mega Watts	8 MW	
KSCF/hour	36 KSCF	

Signature: psm sours

Date:	BLR 2	BLR 4
Start Test	0900	
Recorded Test	0916	
O2	5.7%	
CO	4 PPM	
Eff	84.9%	
CO2	8.6%	
T-Stk	285°F	
T-Air	81.2°F	
EA	33.5%	
CO (15)	1 PPM	
NO	45 PPM	
NO2	4 PPM	
NOX	49 PPM	
SO2	***	
NO (15)	17 PPM	
NOX (15)	19 PPM	
SO2 (15)	***	
K lbs/hour	20 KPPH	

Signature: psm sours

BACHARACH

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 08:45:12 AM

Date: 09/27/21

Fuel
NGAS

O2:	13.7 %
CO	3 ppm
Eff	80.1 %
CO2	4.1 %
T-Stk	275 °F
T-Air	79.1 °F
EA	169.6 %
CO (15)	2 ppm
NO	20 ppm
NO2	3 ppm
NOx	23 ppm
SO2	*** ppm
NO (15)	17 ppm
NO2 (15)	2 ppm
NOx (15)	19 ppm
SO2 (15)	*** ppm

Comments:

#1 GT/HRSG

BACHARACH

BACHARACH, INC.

PCA 3

SN: TP1006

Time: 09:16:28 AM

Date: 09/27/21

Fuel
NGAS

O2:	5.7 %
CO	4 ppm
Eff	84.9 %
CO2	8.6 %
T-Stk	285 °F
T-Air	81.2 °F
EA	33.5 %
CO (15)	1 ppm
NO	45 ppm
NO2	4 ppm
NOx	49 ppm
SO2	*** ppm
NO (15)	17 ppm
NO2 (15)	2 ppm
NOx (15)	19 ppm
SO2 (15)	*** ppm

Comments:

#2 BOLLER

***** THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

SHEET



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

January 20, 2022

Dakota Blum
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite
#715 1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Dakota Blum:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of October 01, 2021 through December 31, 2021.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Baer".

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Phil Riggs, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

University of Maryland- Combined Heating and Power Plant Facility December 2021

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	361.80	0.00	25186.48	0.00		779,220,000	0	815,025	0	0.0126	0.0000	0.0126	1.5238	0.0000	1.5238	0.0378	0.0000	0.0378	0.0756	0.0000	0.0756	0.0617	0.0000	0.0617	0.0617	0.0000	0.0617
Turbine 2	707.90	0.00	88246.80	0.00		617,910,000	0	646,303	0	0.0882	0.0000	0.0882	5.6919	0.0000	5.6919	0.6177	0.0000	0.6177	0.2647	0.0000	0.2647	0.1588	0.0000	0.1588	0.1588	0.0000	0.1588
Duct Burner 1	355.90		7813.25			131,580,000		137,626		0.0211		0.0211	0.0508		0.0508	0.0391		0.0391	0.0023		0.0023	0.0077		0.0077	0.0077		0.0077
Duct Burner 2	462.40		19067.67			112,920,000		118,109		0.0514		0.0514	0.1239		0.1239	0.0953		0.0953	0.0056		0.0056	0.0187		0.0187	0.0187		0.0187
Boiler 2	135.80	4.30	4858.44	111.07						0.0006	0.0001	0.0007	0.2469	0.0068	0.2537	0.0013	0.0012	0.0026	0.0014	0.0025	0.0039	0.0218	0.0043	0.0262	0.0218	0.0043	0.0262
Boiler 4	592.80	0.20	19950.45	1.65						0.0043	0.0000	0.0043	1.0221	0.0001	1.0222	0.0216	0.0000	0.0216	0.0059	0.0000	0.0059	0.0601	0.0001	0.0602	0.0601	0.0001	0.0602
Emerg. Gen.		0.00		0.00	29.2						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Mobile Boiler	96.90	0.00	1.04	0.00						0.0022	0.0000	0.0022	0.0195	0.0000	0.0195	0.0203	0.0000	0.0203	0.0003	0.0000	0.0003	0.0057	0.0000	0.0057	0.0057	0.0000	0.0057
Emissions Total										0.1803	0.0001	0.1804	8.6790	0.0069	8.6858	0.8331	0.0012	0.8344	0.3558	0.0025	0.3583	0.3346	0.0044	0.3390	0.3346	0.0044	0.3390

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.83	114.59	7.51	4.61	5.26	5.26
		OK	OK	OK	OK	OK	OK

EMISSION TEST COLLECTOR

GT 1 DB	GT 2 DB
Start Test	
Recorded Test	
O2	
CO	
Eff	
CO2	
T-Stk	
T-Air	
EA	
CO (15)	
NO	
NO2	
NOX	
SO2	
NO (15)	
NOX (15)	
SO2 (15)	
Mega Watts	
KSCF/hour	

Signature: _____

BLR 2	BLR 4
Date: 10/4/21	
Start Test	1600
Recorded Test	1615
O2	3.3 %
CO	1 ppm
Eff	83.4 %
CO2	9.9 %
T-Stk	399 °F
T-Air	113.1 °F
EA	16.9 %
CO (15)	0 ppm
NO	43 ppm
NO2	1 ppm
NOX	44 ppm
SO2	***
NO (15)	14 ppm
NOX (15)	15 ppm
SO2 (15)	***
K lbs/hour	71

Signature: _____



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 04:00:39 PM
Date: 10/04/21

Fuel
NGAS

O2: 3.3 %
CO 1 ppm
Eff 83.4 %
CO2 9.9 %
T-Stk 399 °F
T-Air 113.1 °F
EA 16.9 %
CO (15) 0 ppm
NO 43 ppm
NO2 1 ppm
NOx 44 ppm
SO2 *** ppm
NO (15) 14 ppm
NO2 (15) 0 ppm
NOx (15) 15 ppm
SO2 (15) *** ppm

Comments: 71

7=



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 03:43:46 PM
Date: 10/04/21

Fuel
NGAS

O2: 5.4 %
CO 0 ppm
Eff 81.4 %
CO2 8.8 %
T-Stk 447 °F
T-Air 117.6 °F
EA 30.7 %
CO (15) 0 ppm
NO 69 ppm
NO2 0 ppm
NOx 69 ppm
SO2 *** ppm
NO (15) 26 ppm
NO2 (15) 0 ppm
NOx (15) 26 ppm
SO2 (15) *** ppm

Comments: 35

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

S SHEET

CP49362

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature: _____

Date:	BLR 2	BLR 4
Start Test	1148	1203
Recorded Test	1203	1218
O2	3.8	5.5
CO	5	0
Eff	82.8	80.2
CO2	9.7	8.7
T-Stk	388	463
T-Air	83.4	93.4
EA	19.6	31.6
CO (15)	6	0
NO	46.3	74
NO2	3.9	0
NOX	50	74
SO2	16***	28***
NO (15)	16	28
NOX (15)	17	28
SO2 (15)	***	***
K lbs/hour	70	40

Signature: _____

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 12:03:25 PM
Date: 10/11/21

Fuel
NGAS

O2: 3.8 %
CO 5 ppm
Eff 82.8 %
CO2 9.7 %
T-Stk 388 °F
T-Air 83.4 °F
EA 19.6 %
CO (15) 6 ppm
NO 46.3 ppm
NO2 3.9 ppm
NOx 50 ppm
NO (15) 16 ppm
NO2 (15) 1 ppm
NOx (15) 17 ppm
Flow 0.77 LPM

Comments: _____

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 12:18:47 PM
Date: 10/11/21

Fuel
NGAS

O2: 5.5 %
CO 0 ppm
Eff 80.2 %
CO2 8.7 %
T-Stk 463 °F
T-Air 93.4 °F
EA 31.6 %
CO (15) 0 ppm
NO 74 ppm
NO2 0.0 ppm
NOx 74 ppm
NO (15) 28 ppm
NO2 (15) 0 ppm
NOx (15) 28 ppm
Flow 0.77 LPM

Comments: _____

AND THEN PRINT TEST RESULTS

S AND THEN PRINT TEST RESULTS

TO THIS SHEET

EMISSION TEST COLLEG

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature: _____

Date: 10/18/21	BLR 2	BLR 4
Start Test	0952	1009
Recorded Test	1009	1023
O2	3.4 %	6.1 %
CO	59 ppm	0 ppm
Eff	83.2 %	80.5 %
CO2	9.9 %	8.4 %
T-Stk	375 °F	436 °F
T-Air	79.4 °F	88.9 °F
EA	17 %	36.5 %
CO (15)	6 ppm	0 ppm
NO	52 ppm	68 ppm
NO2	3.8 ppm	0 ppm
NOX	56 ppm	68 ppm
SO2	---	---
NO (15)	17 ppm	27 ppm
NOX (15)	19 ppm	27 ppm
SO2 (15)	---	---
K lbs/hour	1490 ACFA	597 ACFA

Signature: _____

#1 Boiler



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 10:23:15 AM
Date: 10/18/21

Fuel
NGAS

O2: 6.1 %
CO: 0 ppm
Eff: 80.5 %
CO2: 8.4 %
T-Stk: 436 °F
T-Air: 88.9 °F
EA: 36.5 %
CO (0): 0 ppm
NO: 68 ppm
NO2: 0.0 ppm
NOx: 68 ppm
NO (15): 27 ppm
NO2 (15): 0 ppm
NOx (15): 27 ppm
Flow: 0.77 LPM

Comments: _____

4

Boiler 2



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 10:09:44 AM
Date: 10/18/21

Fuel
NGAS

O2: 3.4 %
CO: 5 ppm
Eff: 83.2 %
CO2: 9.9 %
T-Stk: 375 °F
T-Air: 79.4 °F
EA: 17.0 %
CO (0): 6 ppm
NO: 52 ppm
NO2: 3.8 ppm
NOx: 56 ppm
NO (15): 17 ppm
NO2 (15): 1 ppm
NOx (15): 19 ppm
Flow: 0.77 LPM

Comments: _____

2

TESTS AND THEN PRINT TEST RESULTS

TESTS AND THEN PRINT TEST RESULTS

TO THIS SHEET

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature: _____

Date: 10/25/21	BLR 2	BLR 4
Start Test	1130	1323
Recorded Test	1145	1338
O2	3.5 %	6.7 %
CO	8 ppm	0 ppm
Eff	82.5 %	80.8 %
CO2	9.8 %	8.0 %
T-Stk	398 °F	441 °F
T-Air	78.8 °F	113.7 °F
EA	18.0 %	41.6 %
CO (15)	9 ppm	0 ppm
NO	44.8 ppm	61 ppm
NO2	3.2 ppm	0.0 ppm
NOX	47.9 ppm	61 ppm
SO2	*** ppm	*** ppm
NO (15)	15 ppm	25 ppm
NOX (15)	16 ppm	25 ppm
SO2 (15)	*** ppm	*** ppm
K lbs/hour	65	35

Signature: Ken Will

BLR 2

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 11:45:57 AM
Date: 10/25/21

Fuel
NGAS

O2: 3.5 %
CO: 8 ppm
Eff: 82.5 %
CO2: 9.8 %
T-Stk: 398 °F
T-Air: 78.8 °F
EA: 18.0 %
CO (0): 9 ppm
NO: 44.8 ppm
NO2: 3.2 ppm
NOx: 47.9 ppm
NO (15): 15 ppm
NO2 (15): 1 ppm
NOx (15): 16 ppm
Flow: 0.75 LPM

Comments: _____

11 lbs/hr
65

BLR 4

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 01:38:25 PM
Date: 10/25/21

Fuel
NGAS

O2: 6.7 %
CO: 0 ppm
Eff: 80.8 %
CO2: 8.0 %
T-Stk: 441 °F
T-Air: 113.7 °F
EA: 41.6 %
CO (0): 0 ppm
NO: 61 ppm
NO2: 0.0 ppm
NOx: 61 ppm
NO (15): 25 ppm
NO2 (15): 0 ppm
NOx (15): 25 ppm
Flow: 0.76 LPM

Comments: _____

11 lbs/hr
35

ND THEN PRINT TEST RESULTS

ID THEN PRINT TEST RESULTS

IS SHEET

EMISSION TEST COLLEGE F

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature:

Date:	BLR 2	BLR 4
Start Test	1039	1017
Recorded Test	1054	1032
O2	3.4%	5.1%
CO	49 ppm	0 ppm
Eff	82.7%	76.8%
CO2	9.9%	8.9%
T-Stk	398°F	474°F
T-Air	86.9°F	85.0°F
EA	17.1%	28.7%
CO (15)	58 ppm	0 ppm
NO	53 ppm	99 ppm
NO2	5 ppm	16 ppm
NOX	58 ppm	101 ppm
SO2	*** ppm	*** ppm
NO (15)	2 ppm	1 ppm
NOX (15)	20 ppm	38 ppm
SO2 (15)	*** ppm	*** ppm
K lbs/hour	1100 ACFM	828 ACFM

Signature:

BLR 2

BACHARACH

BACHARACH, INC.

PCA 400

SN: 18041087

Time: 10:54:55 AM

Date: 11/01/21

Fuel

NGAS

O ₂	3.4 %
CO	49 ppm
Eff	82.7 %
CO ₂	9.9 %
T-Stk	398 °F
T-Air	86.9 °F
EA	17.1 %
CO (0)	58 ppm
NO	53 ppm
NO ₂	5.8 ppm
NO _x	58 ppm
NO (15)	18 ppm
NO ₂ (15)	2 ppm
NO _x (15)	20 ppm
Flow	0.77 LPM

$$; 7 \gg \phi_{\eta}^2 \text{ mod } f \in \mathbb{Z}_{\eta}^*$$

BACHARACH

BACHARACH, INC.

PCA 400

SN: 18041087

Time: 10:32:04 AM

Date: 11/01/21

Fuel

NGAS

O ₂	5.1 %
CO	0 ppm
Eff	79.8 %
CO ₂	8.9 %
T-Stk	474 °F
T-Air	85.0 °F
EA	28.7 %
CO(0)	0 ppm
NO	99 ppm
NO ₂	1.8 ppm
NO _x	101 ppm
NO(15)	37 ppm
NO ₂ (15)	1 ppm
NO _x (15)	38 ppm
Flow	0.78 LPM

Comments:

Comments:

1 TO THIS SHEET

TES AND THEN PRINT TEST RESULTS

ITES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE F

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature: _____

BLR2

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 03:38:07 PM
Date: 11/08/21

Fuel
NGAS

O2: 7.1 %
CO 0 ppm
Eff 79.9 %
CO2 7.8 %
T-Stk 444 °F
T-Air 96.3 °F
EA 45.7 %
CO(0) 0 ppm
NO 68 ppm
NO2 0.0 ppm
NOx 68 ppm
NO(15) 29 ppm
NO2(15) 0 ppm
NOx(15) 29 ppm
Flow 0.76 LPM

Comments:

12LBS/hr : 62

BLR4

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 03:53:07 PM
Date: 11/08/21

Fuel
Oil 2

O2: 5.1 %
CO 0 ppm
Eff 85.7 %
CO2 11.8 %
T-Stk 431 °F
T-Air 98.5 °F
EA 29.8 %
CO(0) 0 ppm
NO 100 ppm
NO2 0.0 ppm
NOx 100 ppm
NO(15) 37 ppm
NO2(15) 0 ppm
NOx(15) 37 ppm
Flow 0.77 LPM

Comments:

12LBS/hr: 80

1 TO THIS SHEET

TES AND THEN PRINT TEST RESULTS

TES AND THEN PRINT TEST RESULTS

Date: 11/8/21	BLR 2	<u>OIL</u> BLR 4
Start Test	1523	1538
Recorded Test	1538	1553
O2	7.1 %	5.1 %
CO	0 PPM	0 PPM
Eff	79.9 %	85.7 %
CO2	7.8 %	11.8 %
T-Stk	444 °F	431 °F
T-Air	96.3 °F	98.5 °F
EA	45.7 %	29.8 %
CO (15)	0 PPM	0 PPM
NO	68 PPM	100 PPM
NO2	0.0 PPM	0.0 PPM
NOX	68 PPM	100 PPM
SO2	*** PPM	*** PPM
NO (15)	29 PPM	37 PPM
NOX (15)	29 PPM	37 PPM
SO2 (15)	*** PPM	*** PPM
K lbs/hour	62	80


Signature: _____

Ken Will

CP50612

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1857			
Recorded Test	1903			
O2	13.4%			
CO	3.1 ppm			
Eff	79.3%			
CO2	4.2%			
T-Stk	284°F			
T-Air	65.4°F			
EA	159.9%			
CO (15)	8 ppm			
NO	29.4 ppm			
NO2	4.0 ppm			
NOX	33.4 ppm			
SO2	4.0 ppm			
NO (15)	23 ppm			
NOX (15)	26 ppm			
SO2 (15)	4.0 ppm			
Mega Watts	9.0			
KSCF/hour	48			

Signature: 

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1908			
Recorded Test	1923			
O2	3.8%			
CO	30 ppm			
Eff	83.3%			
CO2	9.7%			
T-Stk	361°F			
T-Air	75.9°F			
EA	19.6%			
CO (15)	36 ppm			
NO	48.8 ppm			
NO2	4.7 ppm			
NOX	54 ppm			
SO2	4.0 ppm			
NO (15)	17 ppm			
NOX (15)	18 ppm			
SO2 (15)	4.0 ppm			
K lbs/hour	52			

Signature: BACHARACH, INC.
PCA 400
SN: 18041087Time: 19:03:12
Date: 11/15/21Fuel
NGAS

O2:	13.4 %
CO	3 ppm
Eff	79.3 %
CO2	4.2 %
T-Stk	284 °F
T-Air	65.4 °F
EA	159.9 %
CO(0)	8 ppm
NO	29.4 ppm
NO2	4.0 ppm
NOx	33.4 ppm
NO(15)	23 ppm
NO2 (15)	3 ppm
NOx (15)	26 ppm
Flow	0.78 LPM

BACHARACH, INC.
PCA 400
SN: 18041087Time: 19:23:24
Date: 11/15/21Fuel
NGAS

O2:	3.8 %
CO	30 ppm
Eff	83.3 %
CO2	9.7 %
T-Stk	361 °F
T-Air	75.9 °F
EA	19.6 %
CO(0)	36 ppm
NO	48.8 ppm
NO2	4.7 ppm
NOx	54 ppm
NO (15)	17 ppm
NO2 (15)	2 ppm
NOx (15)	18 ppm
Flow	0.77 LPM

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				1730
Recorded Test				1735
O2				16.0%
CO				0 ppm
Eff				24.7%
CO2				2.8%
T-Stk				928 °F
T-Air				74.7 °F
EA				250.0%
CO (15)				1 ppm
NO				15.8 ppm
NO2				3.6
NOX				19.4
SO2				**
NO (15)				19
NOX (15)				23
SO2 (15)				**
Mega Watts				9.5 mW
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 17:35:10
Date: 11/22/21

Fuel
NGAS

O2	16.0 %
CO	0 ppm
Eff	24.7 %
CO2	2.8 %
T-Stk	928 °F
T-Air	74.7 °F
EA	250.0 %
CO (0)	1 ppm
NO	15.8 ppm
NO2	3.6 ppm
NOx	19.4 ppm
NO (15)	19 ppm
NO2 (15)	4 ppm
NOx (15)	23 ppm
Flow	0.76 LPM

Comments: _____

CRM TO THIS SHEET

UTES AND THEN PRINT TEST RESULTS

MINUTES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date: 11/29/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0639			0644
Recorded Test	0642			0647
O2	14.1 %			17.9 %
CO	3 PPM			1 PPM
Eff	78.1 %			--- %
CO2	3.9 %			--- %
T-Stk	240 °F			508 °F
T-Air	68.4 °F			65.1 °F
EA	103.5 %			--- %
CO (15)	10 PPM			--- %
NO	26.4 PPM			13.9 PPM
NO2	4.2 PPM			0 PPM
NOX	30.6 PPM			13.9 PPM
SO2	xxx PPM			xxx PPM
NO (15)	23 PPM			--- PPM
NOX (15)	26 PPM			27.3 PPM
SO2 (15)	xxx PPM			xxx PPM
Mega Watts	9			9.7
KSCF/hour	17			

Signature: Ken Will

Date: 11/29/21	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		0714		
Recorded Test		0729		
O2		5.1 %		
CO		0 PPM		
Eff		78.3 %		
CO2		8.9 %		
T-Stk		533 °F		
T-Air		89.1 °F		
EA		29 %		
CO (15)		0 PPM		
NO		100 PPM		
NO2		1.9 PPM		
NOX		102 PPM		
SO2		xxx PPM		
NO (15)		38 PPM		
NOX (15)		38 PPM		
SO2 (15)		xxx PPM		
K lbs/hour		40		

Signature: Ken Will

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT1DB
BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 06:42:26
Date: 11/29/21

Fuel
NGAS

O ₂	14.1 %
CO	3 ppm
Eff	78.1 %
CO ₂	3.9 %
T-Stk	290 °F
T-Air	68.4 °F
EA	183.5 %
CO(O)	10 ppm
NO	26.4 ppm
NO ₂	4.2 ppm
NO _x	30.6 ppm
NO(15)	23 ppm
NO ₂ (15)	4 ppm
NO _x (15)	26 ppm
Flow	0.78 LPM

Comments:

MW: 9.
KSCF: 17

GT2
BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 06:47:33
Date: 11/29/21

Fuel
NGAS

O ₂	17.9 %
CO	1 ppm
Eff	--- %
CO ₂	--- %
T-Stk	508 °F
T-Air	65.1 °F
EA	--- %
CO(O)	--- ppm
NO	13.9 ppm
NO ₂	0.0 ppm
NO _x	13.9 ppm
NO(15)	--- ppm
NO ₂ (15)	--- ppm
NO _x (15)	--- ppm
Flow	0.77 LPM

Comments:

(NO_x)₁₅ = 27.39
MW: 9.7

BUR4
BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 07:29:24
Date: 11/29/21

Fuel
NGAS

O ₂	5.1 %
CO	0 ppm
Eff	78.3 %
CO ₂	8.9 %
T-Stk	533 °F
T-Air	89.1 °F
EA	29.0 %
CO(O)	0 ppm
NO	100 ppm
NO ₂	1.9 ppm
NO _x	102 ppm
NO(15)	38 ppm
NO ₂ (15)	1 ppm
NO _x (15)	38 ppm
Flow	0.77 LPM

Comments:

Klbs/hr : 40

CP 51130

EMISSION T

Date:	GT 1 DB
Start Test	0629
Recorded Test	0635
O2	14.3%
CO	3 ppm
Eff	77.5%
CO2	3.7%
T-Stk	293°F
T-Air	66.8°F
EA	191.3%
CO (15)	9 ppm
NO	26.7
NO2	4.0
NOX	26.7
SO2	***
NO (15)	
NOX (15)	
SO2 (15)	***
Mega Watts	8.4
KSCF/hour	23

Signature: *[Signature]*BACHARACH, INC.
PCA 400
SN: 18041087Time: 06:35:26
Date: 12/06/21Fuel
NGAS

O2: 14.3 %
CO: 3 ppm
Eff: 77.5 %
CO2: 3.7 %
T-Stk: 293 °F
T-Air: 66.8 °F
EA: 191.3 %
CO(0): 9 ppm
NO: 22.7 ppm
NO2: 4.0 ppm
NOx: 26.7 ppm
NO(15): 20 ppm
NO2(15): 4 ppm
NOx(15): 24 ppm
Flow: 0.79 LPM

Comments:

GY

GT2
0640
0645
15.9%
0 ppm
72.7%
2.8%
300°F
62.6°F
250.0%
1 ppm
13.6 ppm
3.7 ppm
17.4 ppm

16 ppm
21 ppm

9.1

Fuel
NGASTime: 06:45:16
Date: 12/06/21

O2: 15.9 %
CO: 0 ppm
Eff: 72.7 %
CO2: 2.8 %
T-Stk: 300 °F
T-Air: 62.6 °F
EA: 250.0 %
CO(0): 1 ppm
NO: 13.6 ppm
NO2: 3.7 ppm
NOx: 17.4 ppm
NO(15): 16 ppm
NO2(15): 4 ppm
NOx(15): 21 ppm
Flow: 0.77 LPM

Comments:

Date:	BLR 2	BLR 4
Start Test	0652	
Recorded Test	0707	
O2	6.8%	
CO	0 ppm	
Eff	81.0%	
CO2	7.9%	
T-Stk	403°F	
T-Air	86.0°F	
EA	43.2%	
CO (15)	0 ppm	
NO	67 ppm	
NO2	0 ppm	
NOX	67 ppm	
SO2	***	
NO (15)	28 ppm	
NOX (15)	28 ppm	
SO2 (15)	***	
K lbs/hour	23K	

Signature: *[Signature]*BACHARACH, INC.
PCA 400
SN: 18041087Time: 07:07:40
Date: 12/06/21Fuel
NGAS

O2: 6.8 %
CO: 0 ppm
Eff: 81.0 %
CO2: 7.9 %
T-Stk: 403 °F
T-Air: 86.0 °F
EA: 43.2 %
CO(0): 0 ppm
NO: 67 ppm
NO2: 0.0 ppm
NOx: 67 ppm
NO(15): 28 ppm
NO2(15): 0 ppm
NOx(15): 28 ppm
Flow: 0.77 LPM

Comments:

S AND THEN PRINT TEST RESULT

AND THEN PRINT TEST RESULTS

THIS SHEET

EMISSION TEST COLLEGE PA

Date: 12/13/21	GT 1 DB	GT 2 DB
Start Test		1424
Recorded Test		1429
O2		14.0 %
CO		3 ppm
Eff		78.1 %
CO2		3.9 %
T-Stk		292 °F
T-Air		68.3 °F
EA		182.2 %
CO (15)		8 ppm
NO		21 ppm
NO2		4.1 ppm
NOX		25.1 ppm
SO2		***
NO (15)		18 ppm
NOX (15)		22 ppm
SO2 (15)		***
Mega Watts		9.1
KSCF/hour		31

Signature:

Ken Will

Date: 12/13/22	BLR 2	BLR 4	B
Start Test	1446		
Recorded Test	1501		
O2	5.9 %		
CO	0 ppm		
Eff	84.4 %		
CO2	8.4 %		
T-Stk	307 °F		
T-Air	87.7 °F		
EA	35.3 %		
CO (15)	0 ppm		
NO	52 ppm		
NO2	1.4 ppm		
NOX	53 ppm		
SO2	***		
NO (15)	20 ppm		
NOX (15)	21 ppm		
SO2 (15)	*** ppm		
K lbs/hour	20		

Signature:

Ken Will

BACHARACH
GT2 DB
BACHARACH, INC.
PCA 400
SN: 18041087

Time: 14:29:15
Date: 12/13/21

Fuel
NGAS

O2: 14.0 %
CO: 3 ppm
Eff: 78.1 %
CO2: 3.9 %
T-Stk: 292 °F
T-Air: 68.3 °F
EA: 182.2 %
CO (0): 8 ppm
NO: 21.0 ppm
NO2: 4.1 ppm
NOx: 25.1 ppm
NO (15): 18 ppm
NO2 (15): 4 ppm
NOx (15): 22 ppm
Flow: 0.77 LPM

Comments:

MW: 9.1
KSCF: 31

BACHARACH
BLR 2
BACHARACH, INC.
PCA 400
SN: 18041087

Time: 15:01:50
Date: 12/13/21

Fuel
NGAS

O2: 5.9 %
CO: 0 ppm
Eff: 84.4 %
CO2: 8.4 %
T-Stk: 307 °F
T-Air: 87.7 °F
EA: 35.3 %
CO (0): 0 ppm
NO: 52 ppm
NO2: 1.4 ppm
NOx: 53 ppm
NO (15): 20 ppm
NO2 (15): 1 ppm
NOx (15): 21 ppm
Flow: 0.76 LPM

Comments:

Klbs/hr: 20

UTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

M TO THIS SHEET

CP51294

EMISSION TEST COLLEGE PARK ENERGY

Date: 12/20/21	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1837		
Recorded Test		1842		
O2		13.6 %		
CO		4 ppm		
Eff		80.3 %		
CO2		4.1 %		
T-Stk		259 °F		
T-Air		63.8 °F		
EA		164.4 %		
CO (15)		12 ppm		
NO		26.1 ppm		
NO2		4.1 ppm		
NOX		30.2 ppm		
SO2		***		
NO (15)		21 ppm		
NOX (15)		24 ppm		
SO2 (15)		***		
Mega Watts		10 MW		
KSCF/hour		49		

Signature:

Evelyn Carter

Date: 12/20/21	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		1246 1231		
Recorded Test		1246		
O2		5.4 %		
CO		0 ppm		
Eff		77.6 %		
CO2		8.8 %		
T-Stk		540 °F		
T-Air		79.1 °F		
EA		30.8 %		
CO (15)		0 ppm		
NO		105 ppm		
NO2		1.6 ppm		
NOX		106 ppm		
SO2		***		
NO (15)		40 ppm		
NOX (15)		40 ppm		
SO2 (15)		***		
K lbs/hour				

Signature:

Evelyn Carter

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

CP 51294

Boiler 4

GT 2 DB



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 12:46:00
Date: 12/20/21

Fuel
NGAS

O ₂	5.4 %
CO	0 ppm
Eff	77.6 %
CO ₂	8.8 %
T-Stk	540 °F
T-Air	79.1 °F
EA	30.8 %
CO (0)	0 ppm
NO	105 ppm
NO ₂	1.6 ppm
NO _x	106 ppm
NO (15)	40 ppm
NO ₂ (15)	1 ppm
NO _x (15)	40 ppm
Flow	0.77 LPM

Comments:

1059



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 18:42:03
Date: 12/20/21

Fuel
NGAS

O ₂	13.6 %
CO	4 ppm
Eff	80.3 %
CO ₂	4.1 %
T-Stk	259 °F
T-Air	63.8 °F
EA	164.4 %
CO (0)	12 ppm
NO	26.1 ppm
NO ₂	4.1 ppm
NO _x	30.2 ppm
NO (15)	21 ppm
NO ₂ (15)	3 ppm
NO _x (15)	24 ppm
Flow	0.77 LPM

Comments:

10 MW

49 DUCT BURNER

EMISSION TEST COLLEGE P

Date:	GT 1 DB	GT 2 DB
Start Test	0655	0705
Recorded Test	0701	0711
O2	14.2%	15.2%
CO	4 ppm	9 ppm
Eff	77.8%	74.4%
CO2	3.8%	3.2%
T-Stk	290°F	301°F
T-Air	66.8°F	58.1°F
EA	188.5%	236.9%
CO (15)	12 ppm	33 ppm
NO	23.6 ppm	14.7 ppm
NO2	3.7 ppm	6.4 ppm
NOX	27.4 ppm	21.1 ppm
SO2	***	***
NO (15)	21 ppm	15 ppm
NOX (15)	24 ppm	22 ppm
SO2 (15)	***	***
Mega Watts	8.6	9.2
KSCF/hour	35	19

Signature: *[Signature]*

Date:	BLR 2	BLR 4
Start Test		0714
Recorded Test		0729
O2		7.0%
CO		0 ppm
Eff		80.5%
CO2		7.8%
T-Stk		408°F
T-Air		78.5°F
EA		45.1%
CO (15)		0 ppm
NO		68 ppm
NO2		0 ppm
NOX		68 ppm
SO2		***
NO (15)		29 ppm
NOX (15)		29 ppm
SO2 (15)		***
K lbs/hour	21 K	21 K

Signature: *[Signature]*

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 07:01:01
Date: 12/27/21

Fuel
NGAS

O2: 14.2 %
CO 4 ppm
Eff 77.8 %
CO2 3.8 %
T-Stk 290 °F
T-Air 66.8 °F
EA 188.5 %
CO (0) 12 ppm
NO 23.6 ppm
NO2 3.7 ppm
NOx 27.4 ppm
NO (15) 21 ppm
NO2 (15) 3 ppm
NOx (15) 24 ppm
Flow 0.78 LPM

BLR 4

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 07:29:55
Date: 12/27/21

Fuel
NGAS

O2: 7.0 %
CO 0 ppm
Eff 80.5 %
CO2 7.8 %
T-Stk 408 °F
T-Air 78.5 °F
EA 45.1 %
CO (0) 0 ppm
NO 68 ppm
NO2 0.0 ppm
NOx 68 ppm
NO (15) 29 ppm
NO2 (15) 0 ppm
NOx (15) 29 ppm
Flow 0.77 LPM

Comments:

GT 2 DB

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 07:11:59
Date: 12/27/21

Fuel
NGAS

O2: 15.2 %
CO 9 ppm
Eff 74.4 %
CO2 3.2 %
T-Stk 301 °F
T-Air 58.1 °F
EA 236.9 %
CO (0) 33 ppm
NO 14.7 ppm
NO2 6.4 ppm
NOx 21.1 ppm
NO (15) 15 ppm
NO2 (15) 7 ppm
NOx (15) 22 ppm
Flow 0.78 LPM

Comments:

NOTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

4 TO THIS SHEET



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

April 25, 2022

Dakota Blum
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Mr. Blum:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of January 01, 2022 through March 31, 2022.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Phil Riggs, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

University of Maryland- Combined Heating and Power Plant Facility March 2022

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	387.50	0.00	45488.37	0.00		737,520,000	0	771,409	0	0.0228	0.0000	0.0228	2.7632	0.0000	2.7632	0.0685	0.0000	0.0685	0.1370	0.0000	0.1370	0.1119	0.0000	0.1119	0.1119	0.0000	0.1119
Turbine 2	618.50	0.00	77442.14	0.00		598,630,000	0	626,137	0	0.0778	0.0000	0.0778	5.0153	0.0000	5.0153	0.5443	0.0000	0.5443	0.2333	0.0000	0.2333	0.1400	0.0000	0.1400	0.1400	0.0000	0.1400
Duct Burner 1	358.40		9037.01			140,480,000		146,935		0.0245		0.0245	0.0590		0.0590	0.0454		0.0454	0.0027		0.0027	0.0089		0.0089	0.0089		0.0089
Duct Burner 2	603.00		23397.90			105,940,000		110,808		0.0633		0.0633	0.1527		0.1527	0.1175		0.1175	0.0069		0.0069	0.0231		0.0231	0.0231		0.0231
Boiler 2	236.60	0.00	14631.79	0.00						0.0017	0.0000	0.0017	0.7467	0.0000	0.7467	0.0041	0.0000	0.0041	0.0043	0.0000	0.0043	0.0660	0.0000	0.0660	0.0660	0.0000	0.0660
Boiler 4	731.20	0.00	35450.38	0.00						0.0076	0.0000	0.0076	1.8236	0.0000	1.8236	0.0385	0.0000	0.0385	0.0105	0.0000	0.0105	0.1072	0.0000	0.1072	0.1072	0.0000	0.1072
Emerg. Gen.		0.00		0.00	0.0						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Mobile Boiler	187.80	0.00	2.28	0.00						0.0048	0.0000	0.0048	0.0430	0.0000	0.0430	0.0448	0.0000	0.0448	0.0007	0.0000	0.0007	0.0126	0.0000	0.0126	0.0126	0.0000	0.0126
Emissions Total										0.2025	0.0000	0.2025	10.6035	0.0000	10.6035	0.8630	0.0000	0.8630	0.3954	0.0000	0.3954	0.4697	0.0000	0.4697	0.4697	0.0000	0.4697

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.83	112.45	7.55	4.51	5.26	5.26
		OK	OK	OK	OK	OK	OK

CP51494 - WEEKLY

GT 1
W/D.B.



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 13:26:15
Date: 01/03/22

Fuel
NGAS

O ₂	15.1 %
CO	7 ppm
Eff	76.2 %
CO ₂	3.3 %
T-Stk	286 °F
T-Air	64.6 °F
EA	231.0 %
CO(O)	24 ppm
NO	21.4 ppm
NO ₂	6.4 ppm
NO _x	27.8 ppm
NO(15)	22 ppm
NO ₂ (15)	7 ppm
NO _x (15)	28 ppm
Flow	0.77 LPM

Comments:

19 GAS
9.35 MW

GT 2
W/D.B.



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 13:39:18
Date: 01/03/22

Fuel
NGAS

O ₂	14.6 %
CO	6 ppm
Eff	78.2 %
CO ₂	3.6 %
T-Stk	257 °F
T-Air	52.8 °F
EA	206.2 %
CO(O)	21 ppm
NO	16.3 ppm
NO ₂	3.8 ppm
NO _x	20.2 ppm
NO(15)	15 ppm
NO ₂ (15)	4 ppm
NO _x (15)	19 ppm
Flow	0.77 LPM

Comments:

37 GAS
9 MW

BOILER #4



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 12:53:39
Date: 01/03/22

Fuel
NGAS

O ₂	5.2 %
CO	0 ppm
Eff	77.8 %
CO ₂	8.9 %
T-Stk	530 °F
T-Air	70.0 °F
EA	29.5 %
CO(O)	0 ppm
NO	107 ppm
NO ₂	0.0 ppm
NO _x	107 ppm
NO(15)	40 ppm
NO ₂ (15)	0 ppm
NO _x (15)	40 ppm
Flow	0.76 LPM

Comments:

1075 ACPM GAS
57 Kpph STEAM

EMISSION TEST COLLEGE

GT 1 W/D.B.

GT 2 W/D.B.

BACHARACH, INC.

PCA 400

SN: 18041087

PCA 400

SN: 18041087

Date: 1/3/22	GT 1 DB	GT 2 DB
Start Test	1321	1334
Recorded Test	1326	1339
O2	15.1 %	14.6 %
CO	7 ppm	6 ppm
Eff	76.2 %	78.2 %
CO2	3.3 %	3.6 %
T-Stk	286 °F	257 °F
T-Air	64.6 °F	52.8 °F
EA	231 %	206.2 %
CO (15)	24 ppm	21 ppm
NO	21.4 ppm	16.3 ppm
NO2	6.4 ppm	3.8 ppm
NOX	27.8 ppm	20.2 ppm
SO2	***	***
NO (15)	22 ppm	15 ppm
NOX (15)	28 ppm	19 ppm
SO2 (15)	***	***
Mega Watts	9.35	9
KSCF/hour	19	37

Time: 13:26:15
Date: 01/03/22

Time: 13:30:18
Date: 01/03/22

Fuel
NGAS

Fuel
NGAS

O2: 15.1 %
CO: 7 ppm
Eff: 76.2 %
CO2: 3.3 %
T-Stk: 286 °F
T-Air: 64.6 °F
EA: 231.0 %
CO (0): 24 ppm
NO: 21.4 ppm
NO2: 6.4 ppm
NOx: 27.8 ppm
NO (15): 22 ppm
NO2 (15): 7 ppm
NOx (15): 28 ppm
Flow: 0.77 LPM

O2: 14.6 %
CO: 6 ppm
Eff: 78.2 %
CO2: 3.6 %
T-Stk: 257 °F
T-Air: 52.8 °F
EA: 206.2 %
CO (0): 21 ppm
NO: 18.3 ppm
NO2: 3.8 ppm
NOx: 20.2 ppm
NO (15): 15 ppm
NO2 (15): 4 ppm
NOx (15): 19 ppm
Flow: 0.77 LPM

Comments:

Comments:

Signature:

Evelyn Carter 19 GAS
9.35 MW

BOILER #4
BACHARACH, INC.
PCA 400
SN: 18041087

37 GAS
9 m.w

Date: 1/3/22	BLR 2	BLR 4
Start Test		1238
Recorded Test		1253
O2		5.2 %
CO		0 ppm
Eff		77.8 %
CO2		8.9 %
T-Stk		530 °F
T-Air		70 °F
EA		29.5 %
CO (15)		0 ppm
NO		107 ppm
NO2		0 ppm
NOX		107 ppm
SO2		***
NO (15)		40 ppm
NOX (15)		40 ppm
SO2 (15)		***
K lbs/hour		1075

Time: 12:53:39
Date: 01/03/22

Fuel
NGAS

O2: 5.2 %
CO: 0 ppm
Eff: 77.8 %
CO2: 8.9 %
T-Stk: 530 °F
T-Air: 70.0 °F
EA: 29.5 %
CO (0): 0 ppm
NO: 107 ppm
NO2: 0.0 ppm
NOx: 107 ppm
NO (15): 40 ppm
NO2 (15): 0 ppm
NOx (15): 40 ppm
Flow: 0.76 LPM

NOTES AND THEN PRINT TEST RESULTS

ARM TO THIS SHEET

Signature:

Evelyn Carter

Comments:

1075 ACPM GAS
57 Kpph steam

CP 51607

8+7+210

GT 1 DB

GT 2 DB

EMISSION TEST COLLEGE I

Date:	GT 1 DB	GT 2 DB
Start Test	0946	0631
Recorded Test	0951	0637
O2	15.1%	13.1%
CO	6 ppm	8 ppm
Eff	76.6 %	80.2 %
CO2	3.5 %	4.4 %
T-Stk	281 °F	269 °F
T-Air	66.8 °F	61.5 °F
EA	230.9 %	150.8 %
CO (15)	6 ppm	21 ppm
NO	13.8 ppm	27.0 ppm
NO2	4.0 ppm	5.0 ppm
NOX	17.8 ppm	32.1 ppm
SO2	***	***
NO (15)	14 ppm	21 ppm
NOX (15)	14 ppm	24 ppm
SO2 (15)	***	***
Mega Watts	8.3	9.6
KSCF/hour	20	54

BACHARACH, INC.
PCA 400
SN: 20123585

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 09:51:59 AM
Date: 01/10/22

Time: 06:37:26
Date: 01/10/22

Fuel
NGAS

Fuel
NGAS

O2 15.1 %
CO 6 ppm
Eff 76.6 %
CO2 3.3 %
T-Stk 281 °F
T-Air 66.8 °F
EA 230.9 %
CO (15) 6 ppm
NO 13.8 ppm
NO2 4.0 ppm
NOx 17.8 ppm
NO (15) 14 ppm
NO2 (15) 4 ppm
NOx (15) 18 ppm
Flow 0.75 LPM

O2 13.1 %
CO 8 ppm
Eff 80.2 %
CO2 4.4 %
T-Stk 269 °F
T-Air 61.5 °F
EA 150.8 %
CO (0) 21 ppm
NO 27.0 ppm
NO2 5.0 ppm
NOx 32.1 ppm
NO (15) 21 ppm
NO2 (15) 4 ppm
NOx (15) 24 ppm
Flow 0.78 LPM

Signature:

[Signature] Comments:

Comments:

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		0927		
Recorded Test		0943		
O2		5.1%		
CO		2 ppm		
Eff		77.7 %		
CO2		8.9 %		
T-Stk		533 °F		
T-Air		70.8 °F		
EA		29.0 %		
CO (15)		1 ppm		
NO		98 ppm		
NO2		0.0 ppm		
NOX		98 ppm		
SO2		***		
NO (15)		37 ppm		
NOX (15)		37 ppm		
SO2 (15)		***		
K lbs/hour		116 lbs/hour		

BLR 4 BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:43:43 AM
Date: 01/10/22

Fuel
NGAS

O2 5.1 %
CO 2 ppm
Eff 77.7 %
CO2 8.9 %
T-Stk 533 °F
T-Air 70.8 °F
EA 29.0 %
CO (15) 1 ppm
NO 98 ppm
NO2 0.0 ppm
NOx 98 ppm
NO (15) 37 ppm
NO2 (15) 0 ppm
NOx (15) 37 ppm
Flow 0.75 LPM

Signature:

[Signature]

Comments:

EMISSION TEST COLLEGE PARK ENERGY

Date: 11/17/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1632	1636		
Recorded Test	1635	1639		
O2	14.6%	14.3%		
CO	5 PPM	6 PPM		
Eff	78.1%	79.4%		
CO2	3.5%	3.7%		
T-Stk	269 °F	249 °F		
T-Air	62.5 °F	57 °F		
EA	207.6%	193.3%		
CO (15)	5 PPM	6 PPM		
NO	18.8 PPM	18.6 PPM		
NO2	4.3 PPM	3.4 PPM		
NOX	23 PPM	22 PPM		
SO2	*** PPM	*** PPM		
NO (15)	18 PPM	17 PPM		
NOX (15)	22 PPM	20 PPM		
SO2 (15)	*** PPM	*** PPM		
Mega Watts	9.5	9		
KSCF/hour	21	48		

Signature:



Date: 11/17/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1553			
Recorded Test	1608			
O2	3.9%			
CO	2 PPM			
Eff	83.3%			
CO2	9.6%			
T-Stk	354 °F			
T-Air	68.9 °F			
EA	20.6%			
CO (15)	1 PPM			
NO	51 PPM			
NO2	2.8 PPM			
NOX	53 PPM			
SO2	*** PPM			
NO (15)	18 PPM			
NOX (15)	19 PPM			
SO2 (15)	*** PPM			
K lbs/hour	55			

Signature:



WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT 2 DB
BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 04:35:42 PM
Date: 01/17/22

Fuel
NGAS

O ₂	14.6 %
CO	5 ppm
Eff	78.1 %
CO ₂	3.5 %
T-Stk	269 °F
T-Air	62.5 °F
EA	207.6 %
CO (15)	5 ppm
NO	18.8 ppm
NO ₂	4.3 ppm
NO _x	23.0 ppm
NO (15)	18 ppm
NO ₂ (15)	4 ppm
NO _x (15)	22 ppm
Flow	0.74 LPM

Comments:

MW - 8.5
KSCF - 21

GT 2 DB
BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 04:39:47 PM
Date: 01/17/22

Fuel
NGAS

O ₂	14.3 %
CO	6 ppm
Eff	79.4 %
CO ₂	3.7 %
T-Stk	249 °F
T-Air	57.0 °F
EA	193.3 %
CO (15)	6 ppm
NO	18.6 ppm
NO ₂	3.4 ppm
NO _x	22.0 ppm
NO (15)	17 ppm
NO ₂ (15)	3 ppm
NO _x (15)	20 ppm
Flow	0.74 LPM

Comments:

MW - 9
KSCF - 48

BLR 2
BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 04:08:02 PM
Date: 01/17/22

Fuel
NGAS

O ₂	3.9 %
CO	2 ppm
Eff	83.3 %
CO ₂	9.6 %
T-Stk	354 °F
T-Air	68.9 °F
EA	20.6 %
CO (15)	1 ppm
NO	51 ppm
NO ₂	2.8 ppm
NO _x	53 ppm
NO (15)	18 ppm
NO ₂ (15)	1 ppm
NO _x (15)	19 ppm
Flow	0.75 LPM

Comments:

Klbs/hr
55

CP52043

#1 GT W/ DUCT BURNER

#2 GT W/ DUCT BURNER

EMISSION TEST COLLEGE

Date: 1/24/22	GT 1 DB	GT 2 DB
Start Test	1057	1108
Recorded Test	1102	1113
O2	14.6%	14.4%
CO	4 ppm	7 ppm
Eff	76.9%	77.3%
CO2	3.6%	3.6%
T-Stk	298°F	290°F
T-Air	72.9°F	65.6°F
EA	205.4%	199.3%
CO (15)	4 ppm	6 ppm
NO	22.5 ppm	20.8 ppm
NO2	4.4 ppm	4.9 ppm
NOX	26.9 ppm	25.7 ppm
SO2	***	***
NO (15)	21 ppm	19 ppm
NOX (15)	25 ppm	24 ppm
SO2 (15)	***	***
Mega Watts	9	9.95
KSCF/hour	23	32

Signature:

Evelyn Carter

Date: 1/24/22	BLR 2	BLR 4
Start Test		1028
Recorded Test	10	1043
O2		5.9%
CO		0 ppm
Eff		79.1%
CO2		8.5%
T-Stk		475°F
T-Air		74.6°F
EA		34.7%
CO (15)		0 ppm
NO		85 ppm
NO2		1.2 ppm
NOX		86 ppm
SO2		***
NO (15)		33 ppm
NOX (15)		34 ppm
SO2 (15)		***
K lbs/hour		45

Signature:

Evelyn Carter

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 11:02:17 AM

Date: 01/24/22

Fuel
NGAS

O2: 14.6 %
CO: 4 ppm
Eff: 76.9 %
CO2: 3.6 %
T-Stk: 298 °F
T-Air: 72.9 °F
EA: 205.4 %
CO (15): 4 ppm
NO: 22.5 ppm
NO2: 4.4 ppm
NOx: 26.9 ppm
NO (15): 21 ppm
NO2 (15): 4 ppm
NOx (15): 25 ppm
Flow: 0.75 LPM

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 11:13:29 AM

Date: 01/24/22

Fuel
NGAS

O2: 14.4 %
CO: 7 ppm
Eff: 77.3 %
CO2: 3.6 %
T-Stk: 290 °F
T-Air: 65.6 °F
EA: 199.3 %
CO (15): 6 ppm
NO: 20.8 ppm
NO2: 4.9 ppm
NOx: 25.7 ppm
NO (15): 19 ppm
NO2 (15): 4 ppm
NOx (15): 24 ppm
Flow: 0.74 LPM

Comments:

#4 BOILER

9 MW
23

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 10:43:12 AM

Date: 01/24/22

Fuel
NGAS

O2: 5.9 %
CO: 0 ppm
Eff: 79.1 %
CO2: 8.5 %
T-Stk: 475 °F
T-Air: 74.6 °F
EA: 34.7 %
CO (15): 0 ppm
NO: 85 ppm
NO2: 1.2 ppm
NOx: 86 ppm
NO (15): 33 ppm
NO2 (15): 0 ppm
NOx (15): 34 ppm
Flow: 0.74 LPM

9.95
32

1 TO THIS SHEET

Comments:

45 kpph

EMISSION TEST COLLEGE PAI

Date: 1/31/22	GT 1 DB	GT 2 DB
Start Test	1452	1457
Recorded Test	1455	1500
O2	14.3 %	14.3 %
CO	1 ppm	3 ppm
Eff	78.5 %	78.1 %
CO2	3.7 %	3.8 %
T-Stk	276 °F	282 °F
T-Air	68.9 °F	66 °F
EA	194 %	191 %
CO (15)	1 ppm	3 ppm
NO	21.2 ppm	19.7 ppm
NO2	3.7 ppm	4.3 ppm
NOX	24.9 ppm	23.9 ppm
SO2	***	***
NO (15)	19 ppm	17 ppm
NOX (15)	22 ppm	21 ppm
SO2 (15)	***	***
Mega Watts	9.0	9.9
KSCF/hour	26	34

Signature:

Kenneth W. L.

GT 1 DB
BACHARACH
BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:55:46 PM
Date: 01/31/22

Fuel
NGAS

O2: 14.3 %
CO 1 ppm
Eff 78.5 %
CO2 3.7 %
T-Stk 276 °F
T-Air 68.9 °F
EA 194.0 %
CO(15) 1 ppm
NO 21.2 ppm
NO2 3.7 ppm
NOx 24.9 ppm
NO(15) 19 ppm
NO2(15) 3 ppm
NOx(15) 22 ppm
Flow 0.75 LPM

Comments:

mw - 90
KSCF/h - 26

GT 2 DB
BACHARACH
BACHARACH, INC.
PCA 400
SN: 20123585

Time: 03:00:02 PM
Date: 01/31/22

Fuel
NGAS

O2: 14.3 %
CO 3 ppm
Eff 78.1 %
CO2 3.8 %
T-Stk 282 °F
T-Air 66.0 °F
EA 191.0 %
CO(15) 3 ppm
NO 19.7 ppm
NO2 4.3 ppm
NOx 23.9 ppm
NO(15) 17 ppm
NO2(15) 4 ppm
NOx(15) 21 ppm
Flow 0.75 LPM

Comments:

mw - 90
KSCF/h - 34

Date: 1/31/22	BLR 2	BLR 4
Start Test		1355
Recorded Test		1450
O2		6.7 %
CO		0 ppm
Eff		78.9 %
CO2		8 %
T-Stk		454 °F
T-Air		66.7 °F
EA		41.7 %
CO (15)		0 ppm
NO		77 ppm
NO2		1.4 ppm
NOX		78 ppm
SO2		***
NO (15)		32 ppm
NOX (15)		32 ppm
SO2 (15)		***
K lbs/hour		41

Signature:

Kenneth W. L.

UTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

M TO THIS SHEET



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:50:20 PM
Date: 01/31/22

Fuel
NGAS

O ₂	6.7 %
CO	0 ppm
Eff	78.9 %
CO ₂	8.0 %
T-Stk	454 °F
T-Air	66.7 °F
EA	41.7 %
CO (15)	0 ppm
NO	77 ppm
NO ₂	1.4 ppm
NO _x	78 ppm
NO (15)	32 ppm
NO ₂ (15)	1 ppm
NO _x (15)	32 ppm
Flow	0.75 LPM

Comments:

Lbs/hr : 41

CP52459

H.R.S.G. 1
BACHARACHH.R.S.G. 2
BACHARACH

EMISSION TEST COLLEGE

Date: 07 FEB 2022	GT 1 DB	GT 2 DB
Start Test	1138	1129
Recorded Test	1143	1134
O2	14.5 %	14.7 %
CO	2 ppm	5 ppm
Eff	76.2 %	76.1 %
CO2	3.6 %	3.5 %
T-Stk	309 °F	300 °F
T-Air	69.2 °F	66.7 °F
EA	202.3 %	213.0 %
CO (15)	2 ppm	5 ppm
NO	20.5 ppm	16.6 ppm
NO2	4.7 ppm	5.5 ppm
NOX	25.2 ppm	22.1 ppm
SO2	***	***
NO (15)	19 ppm	16 ppm
NOX (15)	23 ppm	21 ppm
SO2 (15)	***	***
Mega Watts	8.8	9.75
KSCF/hour	19	24

Signature:

Evelyn CarterBACHARACH, INC.
PCA 400
SN: 20123585BACHARACH, INC.
PCA 400
SN: 20123585Time: 11:43:32 AM
Date: 02/07/22Time: 11:34:28 AM
Date: 02/07/22Fuel
NGASFuel
NGAS

O2: 14.5 %
CO: 2 ppm
Eff: 76.2 %
CO2: 3.6 %
T-Stk: 309 °F
T-Air: 69.2 °F
EA: 202.3 %
CO (15): 2 ppm
NO: 20.5 ppm
NO2: 4.7 ppm
NOx: 25.2 ppm
NO (15): 19 ppm
NO2 (15): 4 ppm
NOx (15): 23 ppm
Flow: 0.74 LPM

O2: 14.7 %
CO: 5 ppm
Eff: 76.1 %
CO2: 3.5 %
T-Stk: 300 °F
T-Air: 66.7 °F
EA: 213.0 %
CO (15): 5 ppm
NO: 16.6 ppm
NO2: 5.5 ppm
NOx: 22.1 ppm
NO (15): 16 ppm
NO2 (15): 5 ppm
NOx (15): 21 ppm
Flow: 0.76 LPM

Comments: 8.8 MW
19 KSCFComments: 9.75 MW
24 KSCF

Date: 07 FEB 2022	BLR 2	BLR 4
Start Test		1142
Recorded Test		1207
O2		5.8 %
CO		0 ppm
Eff		78.9 %
CO2		8.5 %
T-Stk		493 °F
T-Air		86.6 °F
EA		34.0 %
CO (15)		0 ppm
NO		81 ppm
NO2		1.7 ppm
NOX		83 ppm
SO2		***
NO (15)		32 ppm
NOX (15)		32 ppm
SO2 (15)		***
K lbs/hour		45

Signature:

Evelyn Carter#4 Boiler
BACHARACHBACHARACH, INC.
PCA 400
SN: 20123585Time: 12:07:22 PM
Date: 02/07/22Fuel
NGAS

O2: 5.8 %
CO: 0 ppm
Eff: 78.9 %
CO2: 8.5 %
T-Stk: 493 °F
T-Air: 86.6 °F
EA: 34.0 %
CO (15): 0 ppm
NO: 81 ppm
NO2: 1.7 ppm
NOx: 83 ppm
NO (15): 32 ppm
NO2 (15): 1 ppm
NOx (15): 32 ppm
Flow: 0.75 LPM

M TO THIS SHEET

Comments: 45 STEAM

EMISSION TEST COLLEGE PARK ENERGY

Date: 02/14/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1410	1415		
Recorded Test	1414	1418		
O2	14.9 %	14.1 %		
CO	5 ppm	5 ppm		
Eff	76.7 %	78.6 %		
CO2	3.4 %	3.8 %		
T-Stk	286 °F	273 °F		
T-Air	65.1 °F	61.3 °F		
EA	219.8 %	185.7 %		
CO (15)	5 ppm	4 ppm		
NO	19.4 ppm	21.5 ppm		
NO2	5.2 ppm	4.0 ppm		
NOX	24.6 ppm	25.5 ppm		
SO2	***	***		
NO (15)	19 ppm	19 ppm		
NOX (15)	24 ppm	22 ppm		
SO2 (15)	***	***		
Mega Watts	9.2	10.2		
KSCF/hour	19	40		

Signature:

Kenneth Miller

MOBILE BLR

Date: 02/14/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1422	1416		
Recorded Test	1437	1431		
O2	9.0 %	6.1 %		
CO	0 ppm	0 ppm		
Eff	79.6 %	78.0 %		
CO2	6.7 %	8.3 %		
T-Stk	392 °F	505 °F		
T-Air	77.2 °F	73.3 °F		
EA	67.8 %	37 %		
CO (15)	0 ppm	0 ppm		
NO	25.9 ppm	95 ppm		
NO2	0 ppm	*** 1.6		
NOX	25.9 ppm	86 ppm		
SO2	***	***	***	
NO (15)	13 ppm	34 ppm		
NOX (15)	13 ppm	34 ppm		
SO2 (15)	***	***	***	
K lbs/hour	14	45		

Signature:

Kenneth Miller

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GTIDB
BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:14:38 PM
Date: 02/14/22

Fuel
NGAS

O ₂	14.9 %
CO	5 ppm
Eff	76.7 %
CO ₂	3.4 %
T-Stk	286 °F
T-Air	65.1 °F
EA	219.8 %
CO(15)	5 ppm
NO	19.4 ppm
NO ₂	5.2 ppm
NOx	24.6 ppm
NO(15)	19 ppm
NO ₂ (15)	5 ppm
NOx(15)	24 ppm
Flow	0.76 LPM

Comments:

MW - 9.2
16SCFH - 19

GTIDB
BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:18:35 PM
Date: 02/14/22

Fuel
NGAS

O ₂	14.1 %
CO	5 ppm
Eff	78.6 %
CO ₂	3.8 %
T-Stk	273 °F
T-Air	61.3 °F
EA	185.7 %
CO(15)	4 ppm
NO	21.5 ppm
NO ₂	4.0 ppm
NOx	25.5 ppm
NO(15)	19 ppm
NO ₂ (15)	4 ppm
NOx(15)	22 ppm
Flow	0.76 LPM

Comments:

MW - 10.2
16SCFH - 40

GTIDB
BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:31:45 PM
Date: 02/14/22

Fuel
NGAS

O ₂	6.1 %
CO	0 ppm
Eff	78.0 %
CO ₂	8.3 %
T-Stk	505 °F
T-Air	73.3 °F
EA	37.0 %
CO(15)	0 ppm
NO	85 ppm
NO ₂	1.6 ppm
NOx	86 ppm
NO(15)	34 ppm
NO ₂ (15)	1 ppm
NOx(15)	34 ppm
Flow	0.73 LPM

Comments:

16lbs/hr - 45

MOBILE BUR

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:37:33 PM
Date: 02/14/22

Fuel
NGAS

O ₂	9.0 %
CO	0 ppm
Eff	79.6 %
CO ₂	6.7 %
T-Stk	392 °F
T-Air	77.2 °F
EA	67.8 %
CO(15)	0 ppm
NO	25.9 ppm
NO ₂	0.0 ppm
NOx	25.9 ppm
NO(15)	13 ppm
NO ₂ (15)	0 ppm
NOx(15)	13 ppm
Flow	0.75 LPM

Comments:

16lbs/hr 14

GT1 DB
BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 11:34:02 AM
Date: 02/21/22

Fuel
NGAS

O ₂	15.4 %
CO	4 ppm
Eff	75.0 %
CO ₂	3.1 %
T-Stk	300 °F
T-Air	73.3 °F
EA	249.6 %
CO(15)	4 ppm
NO	15.3 ppm
NO ₂	4.9 ppm
NO _x	20.3 ppm
NO(15)	16 ppm
NO ₂ (15)	5 ppm
NO _x (15)	22 ppm
Flow	0.75 LPM

Comments:

MW: 8.3
KSCF/hr: 6

GT2 DB
BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 11:40:09 AM
Date: 02/21/22

Fuel
NGAS

O ₂	15.1 %
CO	5 ppm
Eff	75.7 %
CO ₂	3.3 %
T-Stk	299 °F
T-Air	72.4 °F
EA	233.5 %
CO(15)	5 ppm
NO	14.2 ppm
NO ₂	5.8 ppm
NO _x	19.9 ppm
NO(15)	14 ppm
NO ₂ (15)	6 ppm
NO _x (15)	20 ppm
Flow	0.78 LPM

Comments:

MW: 9.0
KSCF/hr: 20

BLR4
BACHARACH

CD 52863

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 11:52:16 AM
Date: 02/21/22

Fuel
NGAS

O ₂	9.2 %
CO	0 ppm
Eff	78.9 %
CO ₂	6.6 %
T-Stk	415 °F
T-Air	83.1 °F
EA	69.7 %
CO(15)	0 ppm
NO	62 ppm
NO ₂	1.4 ppm
NO _x	64 ppm
NO(15)	31 ppm
NO ₂ (15)	1 ppm
NO _x (15)	32 ppm
Flow	0.74 LPM

Comments:

14lbs/hr: 20

EMISSION TEST COLLEGE PARK ENERGY

Date: 2/21/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1130	1137		
Recorded Test	1134	1140		
O2	15.4 %	15.1 %		
CO	4 PPM	5 PPM		
Eff	75 %	73.7 %		
CO2	3.1 %	3.3 %		
T-Stk	300 °F	299 °F		
T-Air	73.3 °F	72.4 °F		
EA	249.6 %	233.5 %		
CO (15)	4 PPM	5 PPM		
NO	15.3 PPM	14.2 PPM		
NO2	4.9 PPM	5.8 PPM		
NOX	20.3 PPM	19.9 PPM		
SO2	---	---		
NO (15)	16 PPM	14 PPM		
NOX (15)	22 PPM	20 PPM		
SO2 (15)	---	---		
Mega Watts	8.3	9.0		
KSCF/hour	6	20		

Signature:

Kenneth Wil

Date: 2/21/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		1137		
Recorded Test		1152		
O2		9.2 %		
CO		6 PPM		
Eff		78.9 %		
CO2		6.6 %		
T-Stk		415 °F		
T-Air		83.1 °F		
EA		69.7 %		
CO (15)		0 PPM		
NO		62 PPM		
NO2		1.4 PPM		
NOX		64 PPM		
SO2		---		
NO (15)		31 PPM		
NOX (15)		32 PPM		
SO2 (15)		---		
K lbs/hour		20		

Signature:

Kenneth Wil

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

CP.53031

GT1DB

BACHARACH

GT2DB

EMISSION TEST COLLEGE

Date: 2/28/22	GT 1 DB	GT 2 DB
Start Test	0749	0755
Recorded Test	0754	0801
O2	14.9 %	14.1 %
CO	4 ppm	6 ppm
Eff	77.7 %	78.1 %
CO2	3.4 %	3.8 %
T-Stk	270 °F	280 °F
T-Air	65.4 °F	61.2 °F
EA	219.1 %	145.7 %
CO (15)	4 ppm	5 ppm
NO	16.3 ppm	20.5 ppm
NO2	5.0 ppm	4.3 ppm
NOX	23.2 ppm	24.8 ppm
SO2	***	***
NO (15)	16 ppm	18 ppm
NOX (15)	23 ppm	22 ppm
SO2 (15)	***	***
Mega Watts	8.8	9.6
KSCF/hour	20	36

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:54:40 AM
Date: 02/28/22

Fuel
NGAS

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:01:47 AM
Date: 02/28/22

Fuel
NGAS

O2: 14.9 %
CO 4 ppm
Eff 77.7 %
CO2 3.4 %
T-Stk 270 °F
T-Air 65.4 °F
EA 219.1 %
CO (15) 4 ppm
NO 16.3 ppm
NO2 5.0 ppm
NOx 23.2 ppm
NO (15) 16 ppm
NO2 (15) 5 ppm
NOx (15) 23 ppm
Flow 0.75 LPM

O2: 14.1 %
CO 6 ppm
Eff 78.1 %
CO2 3.8 %
T-Stk 138 °C
T-Air 16.2 °C
EA 185.7 %
CO (15) 5 ppm
NO 20.5 ppm
NO2 4.3 ppm
NOx 24.8 ppm
NO (15) 18 ppm
NO2 (15) 4 ppm
NOx (15) 22 ppm
Flow 0.75 LPM

Comments:

Signature: _____

Comments: _____

Date: 2/28/22	BLR 2	BLR 4
Start Test		0726
Recorded Test		0741
O2		5.50 %
CO		0 ppm
Eff		78.0 %
CO2		8.7 %
T-Stk		514 °F
T-Air		68.3 °F
EA		31.9 %
CO (15)		0 ppm
NO		93 ppm
NO2		1.7 ppm
NOX		95 ppm
SO2		***
NO (15)		36 ppm
NOX (15)		36 ppm
SO2 (15)		***
K lbs/hour		53 K

PCA 400
SN: 20123585

BLR4

Time: 07:41:38 AM
Date: 02/28/22

Fuel
NGAS

O2: 5.5 %
CO 0 ppm
Eff 78.0 %
CO2 8.7 %
T-Stk 514 °F
T-Air 68.3 °F
EA 31.9 %
CO (15) 0 ppm
NO 93 ppm
NO2 1.7 ppm
NOx 95 ppm
NO (15) 36 ppm
NO2 (15) 1 ppm
NOx (15) 36 ppm
Flow 0.75 LPM

RM TO THIS SHEET

Signature: _____

Comments: _____

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test	17 17	17 23
Recorded Test	17 22	17 28
O2	14.0%	14.9%
CO	1 ppm	6 ppm
Eff	79.3%	77.7%
CO2	3.9%	3.4%
T-Stk	280°F	281°F
T-Air	77.5°F	76.6°F
EA	181.9%	219.0%
CO (15)	4 ppm	20 ppm
NO	18.4 ppm	12.4 ppm
NO2	3.2 ppm	4.9 ppm
NOX	21.5 ppm	17.3 ppm
SO2	***	***
NO (15)	16 ppm	12 ppm
NOX (15)	19 ppm	17 ppm
SO2 (15)	***	***
Mega Watts	7.1	7.5
KSCF/hour	32	17

Signature: 

Date:	BLR 2	BLR 4
Start Test		17 30
Recorded Test		17 45
O2		12.0%
CO		0 ppm
Eff		77.2%
CO2		5.0%
T-Stk		400°F
T-Air		99.8°F
EA		120.1%
CO (15)		0 ppm
NO		34.6 ppm
NO2		1.3 ppm
NOX		35.9 ppm
SO2		***
NO (15)		23 ppm
NOX (15)		24 ppm
SO2 (15)		***
K lbs/hour		12

Signature: 

BACHARACH, INC.

PCA 400

SN: 18041087

GT1

Time: 17:22:58

Date: 03/07/22

Fuel
NGAS

O2	14.0 %
CO	1 ppm
Eff	79.3 %
CO2	3.9 %
T-Stk	280 °F
T-Air	77.5 °F
EA	181.9 %
CO (0)	4 ppm
NO	18.4 ppm
NO2	3.2 ppm
NOx	21.5 ppm
NO (15)	16 ppm
NO2 (15)	3 ppm
NOx (15)	19 ppm
Flow	0.77 LPM

BACHARACH, INC.

PCA 400

SN: 18041087

BLR4

Time: 17:45:13

Date: 03/07/22

Fuel
NGAS

O2	12.0 %
CO	0 ppm
Eff	77.2 %
CO2	5.0 %
T-Stk	400 °F
T-Air	99.8 °F
EA	120.1 %
CO (0)	0 ppm
NO	34.6 ppm
NO2	1.3 ppm
NOx	35.9 ppm
NO (15)	23 ppm
NO2 (15)	1 ppm
NOx (15)	24 ppm
Flow	0.75 LPM

Comments:

BACHARACH, INC.

PCA 400

SN: 18041087

GT2

Time: 17:28:58

Date: 03/07/22

Fuel
NGAS

O2	14.9 %
CO	6 ppm
Eff	77.7 %
CO2	3.4 %
T-Stk	281 °F
T-Air	76.7 °F
EA	219.0 %
CO (0)	20 ppm
NO	12.4 ppm
NO2	4.9 ppm
NOx	17.3 ppm
NO (15)	12 ppm
NO2 (15)	5 ppm
NOx (15)	17 ppm
Flow	0.76 LPM

Comments:

UTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

M TO THIS SHEET

CP53473

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test	0812	0820
Recorded Test	0818	0826
O2	14.7%	14.5%
CO	4 ppm	6 ppm
Eff	76.2%	76.8%
CO2	3.5%	3.6%
T-Stk	310°F	298°F
T-Air	75.7°F	67.9°F
EA	210.9%	202.5%
CO (15)	13 ppm	19 ppm
NO	20.2 ppm	18.0 ppm
NO2	4.9 ppm	5.3 ppm
NOX	25.0 ppm	23.3 ppm
SO2	XX	XX
NO (15)	19 ppm	17 ppm
NOX (15)	24 ppm	22 ppm
SO2 (15)	XX	XX
Mega Watts	9.9	9.9
KSCF/hour	36	29

Signature: 

Date:	BLR-2	BLR 4
Start Test	0827	0845
Recorded Test	0845	0803
O2	13.1%	5.5%
CO	0 ppm	0 ppm
Eff	74.5%	77.7%
CO2	4.4%	8.7%
T-Stk	387°F	535°F
T-Air	69.0°F	77.5°F
EA	150.8%	31.5%
CO (15)	0 ppm	0 ppm
NO	18 ppm	102 ppm
NO2	0 ppm	0 ppm
NOX	18 ppm	102 ppm
SO2	XX	XX
NO (15)	14 ppm	39 ppm
NOX (15)	14 ppm	39 ppm
SO2 (15)	XX	XX
K lbs/hour	11 K (154)	45 K (194)

Signature: 

BACHARACH, INC.

PCA 400

SN: 18041087

GT1DB

Time: 07:18:39

Date: 03/14/22

Fuel
NGAS

O2	14.7 %
CO	4 ppm
Eff	76.2 %
CO2	3.5 %
T-Stk	310 °F
T-Air	75.7 °F
EA	210.9 %
CO (0)	13 ppm
NO	20.1 ppm
NO2	4.9 ppm
NOx	25.0 ppm
NO (15)	19 ppm
NO2 (15)	5 ppm
NOx (15)	24 ppm
Flow	0.78 LPM

Comments:

BACHARACH

BACHARACH, INC.

PCA 400

SN: 18041087

Mobile
BLR

Time: 07:45:50

Date: 03/14/22

Fuel
NGAS

O2	13.1 %
CO	0 ppm
Eff	74.5 %
CO2	4.4 %
T-Stk	387 °F
T-Air	69.0 °F
EA	150.8 %
CO (0)	0 ppm
NO	18.0 ppm
NO2	0.0 ppm
NOx	18.0 ppm
NO (15)	14 ppm
NO2 (15)	0 ppm
NOx (15)	14 ppm
Flow	0.79 LPM

Comments:

BACHARACH

BACHARACH, INC.

PCA 400

SN: 18041087

GT2DB

Time: 07:26:27

Date: 03/14/22

Fuel
NGAS

O2	14.5 %
CO	6 ppm
Eff	76.8 %
CO2	3.6 %
T-Stk	298 °F
T-Air	67.9 °F
EA	202.5 %
CO (0)	19 ppm
NO	18.0 ppm
NO2	5.3 ppm
NOx	23.3 ppm
NO (15)	17 ppm
NO2 (15)	5 ppm
NOx (15)	22 ppm
Flow	0.78 LPM

BACHARACH

BACHARACH, INC.

PCA 400

SN: 18041087

BLR 4

Time: 07:03:03

Date: 03/14/22

Fuel
NGAS

O2	5.5 %
CO	0 ppm
Eff	77.7 %
CO2	8.7 %
T-Stk	535 °F
T-Air	77.5 °F
EA	31.5 %
CO (0)	0 ppm
NO	102 ppm
NO2	0.0 ppm
NOx	102 ppm
NO (15)	39 ppm
NO2 (15)	0 ppm
NOx (15)	39 ppm
Flow	0.77 LPM

Comments:

EMISSION TEST COLLEGE PAI

Date: 3/21/22	GT 1 DB	GT 2 DB
Start Test		1811
Recorded Test		1814
O2		17.6 %
CO		1 ppm
Eff		--- %
CO2		--- %
T-Stk		276 °F
T-Air		81.3 °F
EA		--- %
CO (15)		--- ppm
NO		10.6 ppm
NO2		0 ppm
NOX		10.6 ppm
SO2		--- ppm
NO (15)		--- ppm
NOX (15)		CORRECTED 18.4 ppm
SO2 (15)		---
Mega Watts		9.2
KSCF/hour		56

Signature:

Ken Wil

BACHARACH, INC.

PCA 400

SN: 18041087

Time: 18:14:14

Date: 03/21/22

Fuel
NGAS

O2	17.6 %
CO	1 ppm
Eff	--- %
CO2	--- %
T-Stk	276 °F
T-Air	81.3 °F
EA	--- %
CO (0)	--- ppm
NO	10.6 ppm
NO2	0.0 ppm
NOx	10.6 ppm
NO (15)	--- ppm
NO2 (15)	--- ppm
NOx (15)	18.4 ppm
Flow	0.79 LPM

Comments:

MW 9.2
1 KSCF/hr 56

BLR4

BACHARACH

BACHARACH, INC.

PCA 400

SN: 18041087

Time: 18:05:28

Date: 03/21/22

Fuel
NGAS

O2	17.5 %
CO	0 ppm
Eff	--- %
CO2	--- %
T-Stk	461 °F
T-Air	75.2 °F
EA	--- %
CO (0)	--- ppm
NO	20.8 ppm
NO2	0.0 ppm
NOx	20.8 ppm
NO (15)	--- ppm
NO2 (15)	--- ppm
NOx (15)	36.2 ppm
Flow	0.79 LPM

Comments:

1 K lbs/hr 37

IS SHEET

) THEN PRINT TEST RESULTS

NOTES AND THEN PRINT TEST RESULTS

Date: 3/21/22	BLR 2	BLR 4
Start Test		1750
Recorded Test		1805
O2		17.5 %
CO		0 ppm
Eff		--- %
CO2		--- %
T-Stk		461 °F
T-Air		75.2 °F
EA		--- %
CO (15)		--- ppm
NO		20.8 ppm
NO2		0 ppm
NOX		CORRECTED 20.8 ppm
SO2		---
NO (15)		---
NOX (15)		CORRECTED 36.2 ppm
SO2 (15)		---
K lbs/hour		37

Signature:

Ken Wil

CP 54123

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

Date: 3/28/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1920	1912	1928	
Recorded Test	1935	1927	1943	
O2	6.5 %	8.2 %	5.9 %	
CO	7 PPM	0 PPM	1 PPM	
Eff	79.4 %	74.1 %	78.7 %	
CO2	8.1 %	7.2 %	8.4 %	
T-Stk	462 °F	577 °F	493 °F	
T-Air	86 °F	82.7 °F	80.5 °F	
EA	39.9 %	57.6 %	35.3 %	
CO (15)	3 PPM	0 PPM	0 PPM	
NO	56 PPM	90 PPM	21 PPM	
NO2	3 PPM	1 PPM	2 PPM	
NOX	59 PPM	91 PPM	23 PPM	
SO2	*** PPM	*** PPM	*** PPM	
NO (15)	23 PPM	42 PPM		
NOX (15)	24 PPM	42 PPM		
SO2 (15)	*** PPM	*** PPM	*** PPM	
K lbs/hour	96	50	56	

Signature: _____

Kenneth Will

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

BLR 2



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 07:35:14 PM
Date: 03/28/22

Fuel
NGAS

O ₂	6.5 %
CO	7 ppm
Eff	79.4 %
CO ₂	8.1 %
T-Stk	462 °F
T-Air	86.0 °F
EA	39.9 %
CO (15)	3 ppm
NO	56 ppm
NO ₂	3 ppm
NO _x	59 ppm
SO ₂	*** ppm
NO (15)	23 ppm
NO ₂ (15)	1 ppm
NO _x (15)	24 ppm
SO ₂ (15)	*** ppm

Comments:

1CLPs - 96

BLR 4



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 07:27:45 PM
Date: 03/28/22

Fuel
NGAS

O ₂	8.2 %
CO	0 ppm
Eff	74.1 %
CO ₂	7.2 %
T-Stk	577 °F
T-Air	82.7 °F
EA	57.6 %
CO (15)	0 ppm
NO	90 ppm
NO ₂	1 ppm
NO _x	91 ppm
SO ₂	*** ppm
NO (15)	42 ppm
NO ₂ (15)	0 ppm
NO _x (15)	42 ppm
SO ₂ (15)	*** ppm

Comments:

1CLPs - 50

MOBILE



BACHARACH, INC.
PCA 3
SN: TP1006

Time: 07:43:17 PM
Date: 03/28/22

Fuel
NGAS

O ₂	5.9 %
CO	1 ppm
Eff	78.7 %
CO ₂	8.4 %
T-Stk	493 °F
T-Air	80.5 °F
EA	35.3 %
CO (15)	0 ppm
NO	21 ppm
NO ₂	2 ppm
NO _x	23 ppm
SO ₂	*** ppm
NO (15)	8 ppm
NO ₂ (15)	1 ppm
NO _x (15)	9 ppm
SO ₂ (15)	*** ppm

Comments:

1CLPs - 56



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

July 11, 2022

Dakota Blum
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Mr. Blum:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of April 01, 2022 through June 30, 2022.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Mark Alexander, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	507.50	0.00	52862.31	0.00		719,880,000	0	752,958	0	0.0265	0.0000	0.0265	3.2112	0.0000	3.2112	0.0796	0.0000	0.0796	0.1592	0.0000	0.1592	0.1300	0.0000	0.1300	0.1300	0.0000	0.1300
Turbine 2	0.00	0.00	0.00	0.00		563,830,000	0	589,738	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Duct Burner 1	493.80		20626.13			145,590,000		152,280		0.0558		0.0558	0.1346		0.1346	0.1035		0.1035	0.0061		0.0061	0.0203		0.0203	0.0203		0.0203
Duct Burner 2	0.00		0.00			102,960,000		107,691		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000
Boiler 2	287.70	0.00	21590.50	0.00						0.0026	0.0000	0.0026	1.1018	0.0000	1.1018	0.0060	0.0000	0.0060	0.0064	0.0000	0.0064	0.0973	0.0000	0.0973	0.0973	0.0000	0.0973
Boiler 4	698.80	0.00	30511.41	0.00						0.0065	0.0000	0.0065	1.5695	0.0000	1.5695	0.0331	0.0000	0.0331	0.0090	0.0000	0.0090	0.0923	0.0000	0.0923	0.0923	0.0000	0.0923
Emerg. Gen.		0.00		0.00	0.0						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000
Mobile Boiler	88.00	0.00	448.71	0.00						0.0009	0.0000	0.0009	0.0081	0.0000	0.0081	0.0084	0.0000	0.0084	0.0001	0.0000	0.0001	0.0024	0.0000	0.0024	0.0024	0.0000	0.0024
Emissions Total										0.0924	0.0000	0.0924	6.0252	0.0000	6.0252	0.2307	0.0000	0.2307	0.1808	0.0000	0.1808	0.3424	0.0000	0.3424	0.3424	0.0000	0.3424

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.79	110.16	7.29	4.36	5.22	5.22
		OK	OK	OK	OK	OK	OK

University of Maryland- Combined Heating and Power Plant Facility May 2022

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	591.90	0.00	76385.73	0.00		706,950,000	0	739,434	0	0.0383	0.0000	0.0383	4.6401	0.0000	4.6401	0.1150	0.0000	0.1150	0.2301	0.0000	0.2301	0.1879	0.0000	0.1879	0.1879	0.0000	0.1879
Turbine 2	380.40	0.00	22833.09	0.00		517,770,000	0	541,562	0	0.0229	0.0000	0.0229	1.4787	0.0000	1.4787	0.1605	0.0000	0.1605	0.0688	0.0000	0.0688	0.0413	0.0000	0.0413	0.0413	0.0000	0.0413
Duct Burner 1	480.40		18398.26			148,700,000		155,533		0.0498		0.0498	0.1201		0.1201	0.0924		0.0924	0.0054		0.0054	0.0181		0.0181	0.0181		0.0181
Duct Burner 2	238.50		11306.72			112,820,000		118,004		0.0306		0.0306	0.0738		0.0738	0.0568		0.0568	0.0033		0.0033	0.0111		0.0111	0.0111		0.0111
Boiler 2	387.70	0.00	11211.54	0.00						0.0013	0.0000	0.0013	0.5721	0.0000	0.5721	0.0031	0.0000	0.0031	0.0033	0.0000	0.0033	0.0505	0.0000	0.0505	0.0505	0.0000	0.0505
Boiler 4	346.60	0.00	3236.17	0.00						0.0007	0.0000	0.0007	0.1665	0.0000	0.1665	0.0035	0.0000	0.0035	0.0010	0.0000	0.0010	0.0098	0.0000	0.0098	0.0098	0.0000	0.0098
Emerg. Gen.		0.50		0.004	0.5						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Mobile Boiler	46.20	0.00	240.57	0.00						0.0005	0.0000	0.0005	0.0043	0.0000	0.0043	0.0045	0.0000	0.0045	0.0001	0.0000	0.0001	0.0013	0.0000	0.0013	0.0013	0.0000	0.0013
Emissions Total										0.1442	0.0000	0.1442	7.0557	0.0000	7.0557	0.4358	0.0000	0.4358	0.3120	0.0000	0.3120	0.3201	0.0000	0.3201	0.3201	0.0000	0.3201

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.77	106.79	6.94	4.18	5.15	5.15
		OK	OK	OK	OK	OK	OK

University of Maryland- Combined Heating and Power Plant Facility June 2022

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	698.80	0.00	87525.10	0.00		705,280,000	0	737,688	0	0.0439	0.0000	0.0439	5.3168	0.0000	5.3168	0.1318	0.0000	0.1318	0.2636	0.0000	0.2636	0.2153	0.0000	0.2153	0.2153	0.0000	0.2153
Turbine 2	720.00	0.00	90192.27	0.00		525,730,000	0	549,887	0	0.0906	0.0000	0.0906	5.8410	0.0000	5.8410	0.6339	0.0000	0.6339	0.2717	0.0000	0.2717	0.1630	0.0000	0.1630	0.1630	0.0000	0.1630
Duct Burner 1	697.20		12844.27			151,320,000		158,273		0.0348		0.0348	0.0838		0.0838	0.0645		0.0645	0.0038		0.0038	0.0127		0.0127	0.0127		0.0127
Duct Burner 2	22.20		1004.11			113,390,000		118,600		0.0027		0.0027	0.0066		0.0066	0.0050		0.0050	0.0003		0.0003	0.0010		0.0010	0.0010		0.0010
Boiler 2	58.50	0.00	2528.69	0.00						0.0003	0.0000	0.0003	0.1290	0.0000	0.1290	0.0007	0.0000	0.0007	0.0007	0.0000	0.0007	0.0114	0.0000	0.0114	0.0114	0.0000	0.0114
Boiler 4	37.00	0.00	1716.09	0.00						0.0004	0.0000	0.0004	0.0883	0.0000	0.0883	0.0019	0.0000	0.0019	0.0005	0.0000	0.0005	0.0052	0.0000	0.0052	0.0052	0.0000	0.0052
Emerg. Gen.		0.50		0.004	1.0						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000
Mobile Boiler	35.20	0.00	138.07	0.00						0.0003	0.0000	0.0003	0.0025	0.0000	0.0025	0.0026	0.0000	0.0026	0.0000	0.0000	0.0000	0.0007	0.0000	0.0007	0.0007	0.0000	0.0007
Emissions Total										0.1729	0.0000	0.1729	11.4680	0.0000	11.4680	0.8404	0.0000	0.8404	0.5407	0.0000	0.5407	0.4093	0.0000	0.4093	0.4093	0.0000	0.4093

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.78	106.68	7.00	4.19	5.14	5.14
		OK	OK	OK	OK	OK	OK

EMISSION TEST COLLEGE PARK ENERGY

Date: 4/29/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1613			
Recorded Test	1618			
O2	13.9 %			
CO	1 ppm			
Eff	79.5 %			
CO2	4.0 %			
T-Stk	282 °F			
T-Air	79.9 °F			
EA	175.7 %			
CO (15)	2 ppm			
NO	23.7 ppm			
NO2	2.8 ppm			
NOX	26.4 ppm			
SO2	***			
NO (15)	20 ppm			
NOX (15)	22 ppm			
SO2 (15)	***			
Mega Watts	7.9			
KSCF/hour	38			

Signature: _____

Evelyn Carter

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

HASG 1

"Σ>SIF"



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 16:18:54

Date: 04/29/22

Fuel
NGAS

O2	13.9 %
CO	1 ppm
Eff	79.5 %
CO2	4.0 %
T-Stk	282 °F
T-Air	79.9 °F
EA	175.7 %
CO (0)	2 ppm
NO	23.7 ppm
NO2	2.8 ppm
NOx	26.4 ppm
NO (15)	20 ppm
NO2 (15)	2 ppm
NOx (15)	22 ppm
Flow	0.77 LPM

Comments: 7.9 MW

38

HEN PRINT TEST RESULTS

HEN PRINT TEST RESULTS

HEET

CP54331

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

Date: 4/4/22	BLR 2	BLR 4	BLR 2 MOBILE	BLR 4
Start Test	0837	0829	1504	
Recorded Test	0852	0844	1519	
O2	11.6 %	6.3 %	9.3 %	
CO	0 PPM	0 PPM	0 PPM	
Eff	80.4 %	77.5 %	80.7 %	
CO2	5.3 %	8.2 %	6.6 %	
T-Stk	303 °F	513 °F	345 °F	
T-Air	75.8 °F	68.4 °F	65.9 °F	
EA	110.3 %	38.3 %	71.1 %	
CO (15)	0 PPM	0 PPM	1 PPM	
NO	37.3 PPM	94 PPM	253 PPM	
NO2	1.1 PPM	1.6 PPM	0 PPM	
NOX	38.4 PPM	96 PPM	25.8 PPM	
SO2	*** PPM	*** PPM	*** PPM	
NO (15)	24 PPM	38 PPM	13 PPM	
NOX (15)	24 PPM	39 PPM	13 PPM	
SO2 (15)	*** PPM	*** PPM	*** PPM	
K lbs/hour	15	50	0	

Signature: _____

Kenneth Wil

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 08:52:14
Date: 04/04/22

Fuel
NGAS

O ₂	11.6 %
CO	0 ppm
Eff	80.9 %
CO ₂	5.3 %
T-Stk	303 °F
T-Air	75.8 °F
EA	110.3 %
CO(O)	0 ppm
NO	37.3 ppm
NO ₂	1.1 ppm
NOx	38.4 ppm
NO(15)	24 ppm
NO ₂ (15)	1 ppm
NOx(15)	24 ppm
Flow	0.77 LPM

Comments:

15



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 08:44:15
Date: 04/04/22

Fuel
NGAS

O ₂	6.3 %
CO	0 ppm
Eff	77.5 %
CO ₂	8.2 %
T-Stk	513 °F
T-Air	68.4 °F
EA	38.3 %
CO(O)	0 ppm
NO	94 ppm
NO ₂	1.6 ppm
NOx	96 ppm
NO(15)	38 ppm
NO ₂ (15)	1 ppm
NOx(15)	39 ppm
Flow	0.78 LPM

Comments:

50



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 15:19:31
Date: 04/04/22

Fuel
NGAS

O ₂	9.3 %
CO	0 ppm
Eff	80.7 %
CO ₂	8.6 %
T-Stk	345 °F
T-Air	65.9 °F
EA	71.1 %
CO(O)	1 ppm
NO	25.8 ppm
NO ₂	0.0 ppm
NOx	25.8 ppm
NO(15)	13 ppm
NO ₂ (15)	0 ppm
NOx(15)	13 ppm
Flow	0.78 LPM

Comments:

0

CP 54329

EMISSION TEST COLLEGE PARK ENERGY

Date: 4/4/22	GT 1 DB	GT 2 DB	GT1	GT
Start Test	0824			
Recorded Test	0827			
O2	13.6 %			
CO	2 ppm			
Eff	79.7 %			
CO2	4.1 %			
T-Stk	278 °F			
T-Air	70.4 °F			
EA	164.5 %			
CO (15)	6 ppm			
NO	25.9 ppm			
NO2	3.5 ppm			
NOX	29.3 ppm			
SO2	*** ppm			
NO (15)	21 ppm			
NOX (15)	24 ppm			
SO2 (15)	*** ppm			
Mega Watts	8.4			
KSCF/hour	33			

HRS
BACHARACH
GT 1 DB
BACHARACH, INC.
PCA 400
SN: 18041087

Time: 08:27:29
Date: 04/04/22

Fuel
NGAS

O2	13.6 %
CO	2 ppm
Eff	79.7 %
CO2	4.1 %
T-Stk	278 °F
T-Air	70.4 °F
EA	164.5 %
CO (0)	6 ppm
NO	25.9 ppm
NO2	3.5 ppm
NOx	29.3 ppm
NO (15)	21 ppm
NO2 (15)	3 ppm
NOx (15)	24 ppm
Flow	0.79 LPM

Signature:

Kenneth Wilk

Date:	BLR 2	BLR 4	BLR 2	BLR
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Comments:

mw - 8.4
KSCF/hr - 33

AND THEN PRINT TEST RESULTS

AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

Signature:

EMISSION TEST COLLEGE PARK ENERGY

Date: 4/11/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0622			
Recorded Test	0627			
O2	13.4%			
CO	3 ppm			
Eff	79.7%			
CO2	4.2%			
T-Stk	287 °F			
T-Air	77.5 °F			
EA	160 %			
CO (15)	8 ppm			
NO	26.4 ppm			
NO2	3.5 ppm			
NOX	29.9 ppm			
SO2	***			
NO (15)	21 ppm			
NOX (15)	24 ppm			
SO2 (15)	***			
Mega Watts	8.9			
KSCF/hour	49			

Signature:

Evelyn Carter

Date: 4/11/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		0547		
Recorded Test		0602		
O2		6.1%		
CO		0 ppm		
Eff		77.3%		
CO2		8.4%		
T-Stk		538 °F		
T-Air		84.3 °F		
EA		36.6%		
CO (15)		0 ppm		
NO		92 ppm		
NO2		0 ppm		
NOX		92 ppm		
SO2		***		
NO (15)		36 ppm		
NOX (15)		36 ppm		
SO2 (15)		***		
K lbs/hour		60 Kpph		

Signature:

Evelyn Carter

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT 1

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 06:27:39
Date: 04/11/22

Fuel
NGAS

O ₂	13.4 %
CO	3 ppm
Eff	79.7 %
CO ₂	4.2 %
T-Stk	287 °F
T-Air	77.5 °F
EA	160.0 %
CO (0)	8 ppm
NO	26.4 ppm
NO ₂	3.5 ppm
NO _x	29.9 ppm
NO (15)	21 ppm
NO ₂ (15)	3 ppm
NO _x (15)	24 ppm
Flow	0.79 LPM

Comments:

MW = 8.9

DB 49 ACFM

BoILER #4

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 06:02:13
Date: 04/11/22

Fuel
NGAS

O ₂	6.1 %
CO	0 ppm
Eff	77.3 %
CO ₂	8.4 %
T-Stk	538 °F
T-Air	84.3 °F
EA	36.6 %
CO (0)	0 ppm
NO	92 ppm
NO ₂	0.0 ppm
NO _x	92 ppm
NO (15)	36 ppm
NO ₂ (15)	0 ppm
NO _x (15)	36 ppm
Flow	0.77 LPM

Comments:

60 Kpph

1138 ACFM

CPS4839

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

WHEN FINISHED TESTING

GT: RECORD TIME PROBE IS INSERTED (Start),

Boiler: RECORD TIME PROBE IS INSERTED (Start)

Signature: _____

Date: 4/18/22	BLR 2	BLR 4
Start Test	0858	0839
Recorded Test	0914	0854
O2	4.6 %	6.1 %
CO	4 ppm	0 ppm
Eff	82.4 %	77.8 %
CO2	9.2 %	8.4 %
T-Stk	391 °F	512 °F
T-Air	86.2 °F	74.1 °F
EA	25.0 %	36.4 %
CO (15)	5 ppm	0 ppm
NO	48.8 ppm	91 ppm
NO2	2.9 ppm	0.0 ppm
NOX	52 ppm	91 ppm
SO2	36 ppm	36 ppm
NO (15)	19 ppm	36 ppm
NOX (15)	19 ppm	36 ppm
SO2 (15)	36 ppm	36 ppm
K lbs/hour		

Signature: _____

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 08:14:12
Date: 04/18/22

Fuel
NGAS

O2: 4.6 %
CO 4 ppm
Eff 82.4 %
CO2 9.2 %
T-Stk 391 °F
T-Air 86.2 °F
EA 25.0 %
CO(0) 5 ppm
NO 48.8 ppm
NO2 2.9 ppm
NOx 52 ppm
NO(15) 19 ppm
NO2(15) 1 ppm
NOx(15) 19 ppm
Flow 0.79 LPM

Comments: _____

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 07:54:45
Date: 04/18/22

Fuel
NGAS

O2: 6.1 %
CO 0 ppm
Eff 77.8 %
CO2 8.4 %
T-Stk 512 °F
T-Air 74.1 °F
EA 36.4 %
CO(0) 0 ppm
NO 91 ppm
NO2 0.0 ppm
NOx 91 ppm
NO(15) 36 ppm
NO2(15) 0 ppm
NOx(15) 36 ppm
Flow 0.78 LPM

Comments: _____

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature: _____

Date: 4/25/22	BLR 2	BLR 4
Start Test 12	12:32	12:52
Recorded Test	12:47	13:07
O2	4.5%	7.2%
CO	10 ppm	0 ppm
Eff	83.1%	80.3%
CO2	9.2%	7.7%
T-Stk	366	432 F
T-Air	84.9 F	97.8 F
EA	24.7%	47.1%
CO (15)	13 ppm	0 ppm
NO	38.9	55 ppm
NO2	3.4	0
NOX	42.3	55 ppm
SO2		
NO (15)	14 ppm	24 ppm
NOX (15)	15 ppm	24 ppm
SO2 (15)		
K lbs/hour	55 kph	30 kpph

Signature: _____

Boiler #4

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 13:07:18
Date: 04/25/22

Fuel
NGAS

O2: 7.2 %
CO: 0 ppm
Eff: 80.3 %
CO2: 7.7 %
T-Stk: 432 °F
T-Air: 97.8 °F
EA: 47.1 %
CO (0): 0 ppm
NO: 55 ppm
NO2: 0.0 ppm
NOx: 55 ppm
NO (15): 24 ppm
NO2 (15): 0 ppm
NOx (15): 24 ppm
Flow: 0.78 LPM

Comments:

30 Kpph
557

Boiler #2

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 12:47:07
Date: 04/25/22

Fuel
NGAS

O2: 4.5 %
CO: 10 ppm
Eff: 83.1 %
CO2: 9.2 %
T-Stk: 366 °F
T-Air: 84.9 °F
EA: 24.7 %
CO (0): 13 ppm
NO: 38.9 ppm
NO2: 3.4 ppm
NOx: 42.3 ppm
NO (15): 14 ppm
NO2 (15): 1 ppm
NOx (15): 15 ppm
Flow: 0.78 LPM

Comments:

55K pph
1240

SHEET

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

Signature: _____

CP 55097

BACHARACH, INC.

PCA 400

SN: 18041087

GT1

EMISSION TEST COLLEGE PARK ENERGY

Date: 5/12/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0739			
Recorded Test	0745			
O2	13.2%			
CO	1 ppm			
Eff	80.5%			
CO2	4.3%			
T-Stk	279 °F			
T-Air	79.6 °F			
EA	153.4%			
CO (15)	3 ppm			
NO	23.7 ppm			
NO2	3.1 ppm			
NOX	26.8 ppm			
SO2	18			
NO (15)	18 ppm			
NOX (15)	21 ppm			
SO2 (15)	21			
Mega Watts				
KSCF/hour				

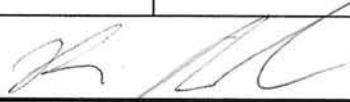
Time: 06:45:33

Date: 05/02/22

Fuel
NGAS

O2	13.2 %
CO	1 ppm
Eff	80.5 %
CO2	4.3 %
T-Stk	279 °F
T-Air	79.6 °F
EA	153.4 %
CO (0)	3 ppm
NO	23.7 ppm
NO2	3.1 ppm
NOx	26.8 ppm
NO (15)	18 ppm
NO2 (15)	2 ppm
NOx (15)	21 ppm
Flow	0.81 LPM

Comments:

Signature: 

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	0718			
Recorded Test	0734			
O2	7.6 %			
CO	0 ppm			
Eff	80.5 %			
CO2	7.5 %			
T-Stk	393 °F			
T-Air	74.1 °F			
EA	50.6 %			
CO (15)	0 ppm			
NO	58 ppm			
NO2	0 ppm			
NOX	58 ppm			
SO2	26			
NO (15)	26 ppm			
NOX (15)	26 ppm			
SO2 (15)	26			
K lbs/hour				

BACHARACH, INC.

PCA 400

SN: 18041087

BLR 4

Time: 06:34:20

Date: 05/02/22

Fuel
NGAS

O2	7.6 %
CO	0 ppm
Eff	80.5 %
CO2	7.5 %
T-Stk	393 °F
T-Air	74.1 °F
EA	50.6 %
CO (0)	0 ppm
NO	58 ppm
NO2	0.0 ppm
NOx	58 ppm
NO (15)	26 ppm
NO2 (15)	0 ppm
NOx (15)	26 ppm
Flow	0.80 LPM

Signature: _____

Comments:

GT LDB

Time: 09:53:45 AM
Date: 05/09/22

Fuel
NGAS
$$\lambda^n \mu^n \nu^n \equiv \pm 1$$

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:31:02 AM
Date: 05/09/22

Fuel
NGAS

O ₂	7.6 %
CO	0 ppm
Eff	80.3 %
CO ₂	7.5 %
T-Stk	421 °F
T-Air	96.5 °F
EA	50.8 %
CO (15)	0 ppm
NO	68 ppm
NO ₂	0.0 ppm
NOx	68 ppm
NO (15)	30 ppm
NO ₂ (15)	0 ppm
NOx (15)	30 ppm
Flow	0.75 LPM

Comments:

Comments:

CLPS/hr : 24

TO THIS SHEET

JTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

O ₂₂	13.4 %
CO	2 ppm
Eff	80.5 %
CO ₂	4.3 %
T-Stk	269 °F
T-Air	71.6 °F
EA	158.1 %
CO (15)	2 ppm
NO	27.4 ppm
NO ₂	2.7 ppm
NO _x	30.1 ppm
NO (15)	21 ppm
NO ₂ (15)	2 ppm
NO _x (15)	24 ppm
Flow	0.77 LPM

Signature:

William Hottel

Date:	5/9/22	BLR 2	BLR 4	Comments:
Start Test			0938	NW 8.2 #/hr: 48
Recorded Test			0953	
O2			7.6%	
CO			0 ppm	
Eff			80.3%	
CO2			7.5%	
T-Stk			42.1°F	
T-Air			96.5°F	
EA			50.8%	
CO (15)			0 ppm	
NO			68 ppm	
NO2			0.0 ppm	
NOX			68 ppm	
SO2			0	
NO (15)			30 ppm	
NOX (15)			30 ppm	
SO2 (15)			0	
K lbs/hour		2	24	

Comments:

8.2
= 1 hr : 48

Signature:

William Bottes

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

EMISSION 1	
Date:	GT 1 DB
Start Test	
Recorded Test	
O2	
CO	
Eff	
CO2	
T-Stk	
T-Air	
EA	
CO (15)	
NO	
NO2	
NOX	
SO2	
NO (15)	
NOX (15)	
SO2 (15)	
Mega Watts	
KSCF/hour	

BACHARACH
BACHARACH, INC.

PCA 400
SN: 20123585

Time: 08:20:50 AM
Date: 05/11/22

Fuel
NGAS

O ₂	3.5 %
CO	0 ppm
Eff	77.8 %
CO ₂	9.8 %
T-Stk	594 °F
T-Air	96.7 °F
EA	18.1 %
CO (15)	0 ppm
NO	104 ppm
NO ₂	2.6 ppm
NOx	107 ppm
NO (15)	35 ppm
NO ₂ (15)	1 ppm
NOx (15)	36 ppm
Flow	0.77 LPM

GY	
Date:	GT2
Start Test	
Recorded Test	
O2	
CO	
Eff	
CO2	
T-Stk	
T-Air	
EA	
CO (15)	
NO	
NO2	
NOX	
SO2	
NO (15)	
NOX (15)	
SO2 (15)	
Mega Watts	
KSCF/hour	

Signature: _____

Comments: *Kilbel for 79*

Date:	BLR 2
Start Test	
Recorded Test	
O2	
CO	
Eff	
CO2	
T-Stk	
T-Air	
EA	
CO (15)	
NO	
NO2	
NOX	
SO2	
NO (15)	
NOX (15)	
SO2 (15)	
K lbs/hour	

BLR 4

Signature: _____

Signature:

EMISSION TEST COLLEGE PARK ENERGY

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 02:01:22
Date: 05/15/22

Fuel
NGAS

Date: 5/15/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				0155
Recorded Test				0201
O2				15.9%
CO				0 ppm
Eff				72.9%
CO2				2.8%
T-Stk				306°F
T-Air				71.8°F
EA				250.0 ppm
CO (15)				0 ppm
NO				13.7 ppm
NO2				3.3 ppm
NOX				17.0 ppm
SO2				16 ppm
NO (15)				20 ppm
NOX (15)				20 ppm
SO2 (15)				4 ppm
Mega Watts				8.3 MW
KSCF/hour				

O2	15.9 %
CO	0 ppm
Eff	72.9 %
CO2	2.8 %
T-Stk	306 °F
T-Air	71.8 °F
EA	250.0 %
CO (0)	0 ppm
NO	13.7 ppm
NO2	3.3 ppm
NOx	17.0 ppm
NO (15)	16 ppm
NO2 (15)	4 ppm
NOx (15)	20 ppm
Flow	0.77 LPM

Signature: _____

Comments: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

TO THIS SHEET
ES AND THEN PRINT TEST RESULTS
JTES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date: 5/15/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				13511346
Recorded Test				1351
O2				15.9%
CO				0
Eff				74.3%
CO2				2.8%
T-Stk				310°
T-Air				95.3°
EA				250%
CO (15)				XXXXX
NO				11.5
NO2				2.5
NOX				14.0
SO2				XXXXX
NO (15)				14
NOX (15)				17
SO2 (15)				XXXXX
Mega Watts				7.6 MW
KSCF/hour				

Signature:

N. Jackson Evelyn Carter

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

N. Jackson



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 13:51:20
Date: 05/15/22

Fuel
NGAS

O2:	15.9 %
CO	0 ppm
Eff	74.3 %
CO2	2.8 %
T-Stk	310 °F
T-Air	95.3 °F
EA	250.0 %
CO (0)	0 ppm
NO	11.5 ppm
NO2	2.5 ppm
NOx	14.0 ppm
NO (15)	14 ppm
NO2 (15)	3 ppm
NOx (15)	17 ppm
Flow	0.75 LPM

Comments:

NO DUCT BUR
7.6 MW

1EN PRINT TEST RESULTS

3EN PRINT TEST RESULTS

3ET

EMISSION TEST COLLEGE PARK ENERGY

Date: 5/16/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				0145
Recorded Test				0151
O2				15.9%
CO				0 ppm
Eff				73.3%
CO2				2.8%
T-Stk				318 °F
T-Air				87.3 °F
EA				250%
CO (15)				0 ppm
NO				13.9 ppm
NO2				3.4 ppm
NOX				17.3 ppm
SO2				16 ppm
NO (15)				20 ppm
NOX (15)				20 ppm
SO2 (15)				20 ppm
Mega Watts				8.3 MW
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 01:51:17
Date: 05/16/22

Fuel
NGAS

O2	15.9 %
CO	0 ppm
Eff	73.3 %
CO2	2.8 %
T-Stk	318 °F
T-Air	87.3 °F
EA	250.0 %
CO (0)	0 ppm
NO	13.9 ppm
NO2	3.4 ppm
NOx	17.3 ppm
NO (15)	16 ppm
NO2 (15)	4 ppm
NOx (15)	20 ppm
Flow	0.77 LPM

Comments: _____

15 MINUTES AND THEN PRINT TEST RESULTS

MINUTES AND THEN PRINT TEST RESULTS

H FORM TO THIS SHEET

EMISSION TEST COLLEGE

#2 GT

Boiler #2

Date: 5/16/22	GT 1 DB	GT 2 DB
Start Test		1233
Recorded Test		12:38
O2		13.9 %
CO		6 ppm
Eff		81.9 %
CO2		4.0 %
T-Stk		264°
T-Air		83.3°
EA		174.9 %
CO (15)		X X X X
NO		18.8 ppm
NO2		3.5 ppm
NOX		22.3 ppm
SO2		X X X X
NO (15)		16 ppm
NOX (15)		3 ppm
SO2 (15)		X X X X
Mega Watts		8.1 MW
KSCF/hour		

Signature:

Nathan Jackson

Date: 5/16/22	BLR 2	BLR 4
Start Test	13:01	1246
Recorded Test	13:01	
O2	7.1 %	
CO	27 ppm	
Eff	83.8 %	
CO2	7.8 %	
T-Stk	305°	
T-Air	79.2	45.5 %
EA	45.5 %	
CO (15)	11 ppm	
NO	30.1 ppm	
NO2	8 ppm	
NOX	38.1 ppm	
SO2	X X X X	
NO (15)	13 ppm	
NOX (15)	6 ppm	
SO2 (15)	X X X X	
K lbs/hour		

Signature:

Nathan Jackson Evelyn Carter

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 12:38:34
Date: 05/16/22

Fuel
NGAS

O2: 13.9 %
CO: 6 ppm
Eff: 81.0 %
CO2: 4.0 %
T-Stk: 264 °F
T-Air: 87.3 °F
EA: 174.9 %
CO (0): 16 ppm
NO: 18.8 ppm
NO2: 3.5 ppm
NOx: 22.3 ppm
NO (15): 16 ppm
NO2 (15): 3 ppm
NOx (15): 19 ppm
Flow: 0.77 LPM

Comments:

8.1 MW
43 DUCT BURNER

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 01:01:10 PM
Date: 05/16/22

Fuel
NGAS

O2: 7.1 %
CO: 27 ppm
Eff: 83.8 %
CO2: 7.8 %
T-Stk: 305 °F
T-Air: 79.2 °F
EA: 45.5 %
CO (15): 11 ppm
NO: 30.1 ppm
NO2: 8.0 ppm
NOx: 38.1 ppm
NO (15): 13 ppm
NO2 (15): 3 ppm
NOx (15): 16 ppm
Flow: 0.76 LPM

Comments:

20 Kpph

JTES AND THEN PRINT TEST RESULTS

JTES AND THEN PRINT TEST RESULTS

TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:02:29 AM
Date: 05/17/22

Fuel
NGAS

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		0159		
Recorded Test		0202		
O2		13.4 %		
CO		4 ppm		
Eff		80.3 %		
CO2		4.0 %		
T-Stk		274 °F		
T-Air		86.9 °F		
EA		176.2 %		
CO (15)		3 ppm		
NO		23 ppm		
NO2		2.8 ppm		
NOX		25.7 ppm		
SO2		K+x		
NO (15)		19 ppm		
NOX (15)		22 ppm		
SO2 (15)		K+x		
Mega Watts		8.6		
KSCF/hour		43		

O2	13.9 %
CO	4 ppm
Eff	80.3 %
CO2	4.0 %
T-Stk	274 °F
T-Air	86.9 °F
EA	176.2 %
CO (15)	3 ppm
NO	23.0 ppm
NO2	2.8 ppm
NOx	25.7 ppm
NO (15)	19 ppm
NO2 (15)	2 ppm
NOx (15)	22 ppm
Flow	0.77 LPM

Signature:

Kenneth Wile

Comments:

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

MINUTES AND THEN PRINT TEST RESULTS

MINUTES AND THEN PRINT TEST RESULTS

RM TO THIS SHEET

EMISSION TEST COLLEGE PAR

#2 GT w/ DUCT

BACHARACH, INC. BUREAU
PCA 400
SN: 20123585

Date: 5/17/22	GT 1 DB	GT 2 DB
Start Test		1409
Recorded Test		1414
O2		14.3 %
CO		3 ppm
Eff		79.8 %
CO2		3.7 %
T-Stk		277 °F
T-Air		90.3 °F
EA		192.9 %
CO (15)		3 ppm
NO		21.8 ppm
NO2		2.8 ppm
NOX		24.6 ppm
SO2		x x x
NO (15)		20 ppm
NOX (15)		22 ppm
SO2 (15)		x x x
Mega Watts		7.5
KSCF/hour		32

Time: 02:14:57 PM
Date: 05/17/22

Fuel
NGAS

O2	14.3 %
CO	3 ppm
Eff	79.8 %
CO2	3.7 %
T-Stk	277 °F
T-Air	90.3 °F
EA	192.9 %
CO (15)	3 ppm
NO	21.8 ppm
NO2	2.8 ppm
NOx	24.6 ppm
NO (15)	20 ppm
NO2 (15)	2 ppm
NOx (15)	22 ppm
Flow	0.76 LPM

Comments:

7.5 MW
32 KSCFH

Signature: Evelyn Carter

Date:	BLR 2	BLR 4	B
Start Test			
Recorded Test			
O2			
CO			
Eff			
CO2			
T-Stk			
T-Air			
EA			
CO (15)			
NO			
NO2			
NOX			
SO2			
NO (15)			
NOX (15)			
SO2 (15)			
K lbs/hour			

Signature: _____

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

NOTES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PAR

#2

BACHARACH
BACHARACH, INC. **BURNER**
PCA 400
SN: 20123585

Date: 5/17/22	GT 1 DB	GT 2 DB	
Start Test		1409	
Recorded Test		1414	
O2		14.3 %	
CO		3 ppm	
Eff		79.8 %	
CO2		3.7 %	
T-Stk		277 °F	
T-Air		90.3 °F	
EA		192.9 %	
CO (15)		3 ppm	
NO		21.8 ppm	
NO2		2.8 ppm	
NOX		24.6 ppm	
SO2		x x x	
NO (15)		20 ppm	
NOX (15)		22 ppm	
SO2 (15)		x x x	
Mega Watts		7.5	
KSCF/hour		32	

Time: 02:14:57 PM
Date: 05/17/22

Fuel
NGAS

O2	14.3 %
CO	3 ppm
Eff	79.8 %
CO2	3.7 %
T-Stk	277 °F
T-Air	90.3 °F
EA	192.9 %
CO (15)	3 ppm
NO	21.8 ppm
NO2	2.8 ppm
NOx	24.6 ppm
NO (15)	20 ppm
NO2 (15)	2 ppm
NOx (15)	22 ppm
Flow	0.76 LPM

Comments:

7.5 MW
32 KSCFH

Signature:

Evelyn Carter

Date:	BLR 2	BLR 4	BLR
Start Test			
Recorded Test			
O2			
CO			
Eff			
CO2			
T-Stk			
T-Air			
EA			
CO (15)			
NO			
NO2			
NOX			
SO2			
NO (15)			
NOX (15)			
SO2 (15)			
K lbs/hour			

Signature:

NOTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 05/18/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		0206		
Recorded Test		0209		
O2		13.5 %		
CO		4 ppm		
Eff		80.2 %		
CO2		4.2 %		
T-Stk		288 °F		
T-Air		87.9 °F		
EA		162 %		
CO (15)		3 ppm		
NO		24.7 ppm		
NO2		3 ppm		
NOX		27.7 ppm		
SO2		X+X		
NO (15)		20 ppm		
NOX (15)		22 ppm		
SO2 (15)		X+X		
Mega Watts		8.6		
KSCF/hour		47		

Signature:

Kenneth Wil

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:09:01 AM
Date: 05/18/22

Fuel
NGAS

O2:	13.5 %
CO	4 ppm
Eff	80.2 %
CO2	4.2 %
T-Stk	288 °F
T-Air	87.9 °F
EA	162.0 %
CO (15)	3 ppm
NO	24.7 ppm
NO2	3.0 ppm
NOx	27.7 ppm
NO (15)	20 ppm
NO2 (15)	2 ppm
NOx (15)	22 ppm
Flow	0.77 LPM

Comments:

MW - 8.6
KSCF - 47

ES AND THEN PRINT TEST RESULTS
ES AND THEN PRINT TEST RESULTS
TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 5/18/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1411		
Recorded Test		1416		
O2		14.2%		
CO		4 ppm		
Eff		79.5%		
CO2		3.8%		
T-Stk		284°F		
T-Air		88.3°F		
EA		186.9%		
CO (15)		3 ppm		
NO		21.4 ppm		
NO2		2.8 ppm		
NOX		24.2 ppm		
SO2		* * *		
NO (15)		19 ppm		
NOX (15)		21 ppm		
SO2 (15)		* * *		
Mega Watts		8.09		
KSCF/hour		30		



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:16:27 PM
Date: 05/18/22

Fuel
NGAS

O2	14.2 %
CO	4 ppm
Eff	79.5 %
CO2	3.8 %
T-Stk	284 °F
T-Air	88.3 °F
EA	186.9 %
CO (15)	3 ppm
NO	21.4 ppm
NO2	2.8 ppm
NOx	24.2 ppm
NO (15)	19 ppm
NO2 (15)	2 ppm
NOx (15)	21 ppm
Flow	0.77 LPH

Signature:

Evelyn Carter

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Comments:

8.09 MW
30 kscfh

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

SHEET

Signature:

EMISSION TEST COLLEGE PARK ENERGY

Date: 5/18/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1411		
Recorded Test		1416		
O2		14.2 %		
CO		4 ppm		
Eff		79.5 %		
CO2		3.8 %		
T-Stk		284 °F		
T-Air		88.3 °F		
EA		186.9 %		
CO (15)		3 ppm		
NO		21.4 ppm		
NO2		2.8 ppm		
NOX		24.2 ppm		
SO2		* * *		
NO (15)		19 ppm		
NOX (15)		21 ppm		
SO2 (15)		* * *		
Mega Watts		8.09		
KSCF/hour		30		

Signature:

Evelyn Carter

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:16:27 PM
Date: 05/18/22

Fuel
NGAS

O2	14.2 %
CO	4 ppm
Eff	79.5 %
CO2	3.8 %
T-Stk	284 °F
T-Air	88.3 °F
EA	186.9 %
CO (15)	3 ppm
NO	21.4 ppm
NO2	2.8 ppm
NOx	24.2 ppm
NO (15)	19 ppm
NO2 (15)	2 ppm
NOx (15)	21 ppm
Flow	0.77 LPM

Comments:

8.09 MW
30 kscfh

THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		01:23 am		
Recorded Test		01:26 am		
O2		13.7%		
CO		4 ppm		
Eff		80.1%		
CO2		4.1%		
T-Stk		283 °F		
T-Air		87.3 °F		
EA		169.4%		
CO (15)		3 ppm		
NO		22.3 ppm		
NO2		3.1 ppm		
NOX		25.3 ppm		
SO2				
NO (15)		18 ppm		
NOX (15)		21 ppm		
SO2 (15)				
Mega Watts		8.8		
KSCF/hour		49		

Signature: _____

William B. [Signature]

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 01:23:37 AM
Date: 05/19/22

Fuel
NGAS

O2:	13.7 %
CO	4 ppm
Eff	80.1 %
CO2	4.1 %
T-Stk	283 °F
T-Air	87.3 °F
EA	169.4 %
CO (15)	3 ppm
NO	22.3 ppm
NO2	3.1 ppm
NOx	25.3 ppm
NO (15)	18 ppm
NO2 (15)	3 ppm
NOx (15)	21 ppm
Flow	0.77 LPM

Comments:

MW: 8.8
KSCF: 49

MINUTES AND THEN PRINT TEST RESULTS

ES AND THEN PRINT TEST RESULTS

THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1402		
Recorded Test		1408		
O2		13.2%		
CO		6 ppm		
Eff		81.6%		
CO2		4.4%		
T-Stk		289°F		
T-Air		89.0°F		
EA		151.9%		
CO (15)		5 ppm		
NO		20.2 ppm		
NO2		3.5 ppm		
NOX		23.7 ppm		
SO2		15 ppm		
NO (15)		3 ppm		
NOX (15)		18 ppm		
SO2 (15)		0.78 LPM		
Mega Watts		7.5 MW		
KSCF/hour		52		

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:08:35 PM
Date: 05/19/22

Fuel
NGAS

O2:	13.2 %
CO	6 ppm
Eff	81.6 %
CO2	4.4 %
T-Stk	289 °F
T-Air	89.0 °F
EA	151.9 %
CO (15)	5 ppm
NO	20.2 ppm
NO2	3.5 ppm
NOx	23.7 ppm
NO (15)	15 ppm
NO2 (15)	3 ppm
NOx (15)	18 ppm
Flow	0.78 LPM

Comments: _____

INUTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1:55am		
Recorded Test		1:59am		
O2		13.6%		
CO		3 ppm		
Eff		40%		
CO2		4.1%		
T-Stk		292°F		
T-Air		91.1°F		
EA		166.2%		
CO (15)		2 ppm		
NO		20.7 ppm		
NO2		2.9 ppm		
NOX		23.6 ppm		
SO2				
NO (15)		17 ppm		
NOX (15)		19 ppm		
SO2 (15)				
Mega Watts		8.5		
KSCF/hour		44		

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 01:59:04 AM
Date: 05/20/22

Fuel
NGAS

O2	13.6 %
CO	3 ppm
Eff	80.0 %
CO2	4.1 %
T-Stk	292 °F
T-Air	91.1 °F
EA	166.2 %
CO(15)	2 ppm
NO	20.7 ppm
NO2	2.9 ppm
NOx	23.6 ppm
NO(15)	17 ppm
NO2(15)	2 ppm
NOx(15)	19 ppm
Flow	0.76 LPM

Signature:

William Hite

Comments:

8.5
44

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

UTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

M TO THIS SHEET

Simple cycle

EMISSION TEST COLLEGE PARK ENERGY



BACHARACH, INC.

PCA 400

SN: 20123585

Time: 01:53:33 PM

Date: 05/20/22

Fuel
NGAS

Date: 5/20/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1346		
Recorded Test		1353		
O2		15.1%		
CO		5 ppm		
Eff		78.7%		
CO2		3.3%		
T-Stk		240°F		
T-Air		96.3°F		
EA		230.4%		
CO (15)		6 ppm		
NO		12.8 ppm		
NO2		3.5 ppm		
NOX		16.3 ppm		
SO2		4 ppm		
NO (15)		13 ppm		
NOX (15)		16 ppm		
SO2 (15)		4 ppm		
Mega Watts		7.3 MW		
KSCF/hour				

O2	15.1 %
CO	5 ppm
Eff	78.7 %
CO2	3.3 %
T-Stk	280 °F
T-Air	96.3 °F
EA	230.4 %
CO (15)	6 ppm
NO	12.8 ppm
NO2	3.5 ppm
NOx	16.3 ppm
NO (15)	13 ppm
NO2 (15)	4 ppm
NOx (15)	16 ppm
Flow	0.77 LPM

Signature: _____

Comments:

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

15 MINUTES AND THEN PRINT TEST RESULTS

INUTES AND THEN PRINT TEST RESULTS

RM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 01:45:20 AM

Date: 05/21/22

Fuel
NGAS

Date: 5/21/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2		13.5 %		
CO		3 PPM		
Eff		81.6 %		
CO2		4.2 %		
T-Stk		273 °F		
T-Air		100.4 °F		
EA		164.0 %		
CO (15)		3 PPM		
NO		19.5 PPM		
NO2		2.2 PPM		
NOX		21.7 PPM		
SO2		***		
NO (15)		16 PPM		
NOX (15)		17 PPM		
SO2 (15)		***		
Mega Watts		7.3		
KSCF/hour		39		

Signature: Kenneth Cole

O2	13.5 %
CO	3 ppm
Eff	81.6 %
CO2	4.2 %
T-Stk	273 °F
T-Air	100.4 °F
EA	164.0 %
CO(15)	3 ppm
NO	19.5 ppm
NO2	2.2 ppm
NOx	21.7 ppm
NO(15)	16 ppm
NO2(15)	2 ppm
NOx(15)	17 ppm
Flow	0.77 LPM

Comments:

MW -
KSCF7.3
39

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

TESTS AND THEN PRINT TEST RESULTS

TESTS AND THEN PRINT TEST RESULTS

I TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 5/2/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				0520
Recorded Test				0526
O2				15.9%
CO				0 ppm
Eff				75.3%
CO2				2.8%
T-Stk				307°F
T-Air				105.2°F
EA				250.0%
CO (15)				0 ppm
NO				11.0 ppm
NO2				2.1 ppm
NOX				13.1 ppm
SO2				4.8 ppm
NO (15)				13 ppm
NOX (15)				16 ppm
SO2 (15)				8.8 ppm
Mega Watts				6.98 MW
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

?±

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 05:26:43 PM
Date: 05/21/22

Fuel
NGAS

O2	15.9 %
CO	0 ppm
Eff	75.3 %
CO2	2.8 %
T-Stk	307 °F
T-Air	105.2 °F
EA	250.0 %
CO (15)	0 ppm
NO	11.0 ppm
NO2	2.1 ppm
NOx	13.1 ppm
NO (15)	13 ppm
NO2 (15)	3 ppm
NOx (15)	16 ppm
Flow	0.78 LPM

Comments: _____

NOTES AND THEN PRINT TEST RESULTS

ES AND THEN PRINT TEST RESULTS

PM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY



BACHARACH, INC.
PCA 400
SN: 20123585

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				02:25am
Recorded Test				02:29am
O2				15.9%
CO				0ppm
Eff				74.9%
CO2				2.8%
T-Stk				310 °F
T-Air				99.4 °F
EA				250.0%
CO (15)				0ppm
NO				12.5ppm
NO2				2.4ppm
NOX				14.9ppm
SO2				
NO (15)				15ppm
NOX (15)				17ppm
SO2 (15)				
Mega Watts				7.6
KSCF/hour				

Signature: _____

William [Signature]

Time: 02:29:14 AM
Date: 05/22/22

Fuel
NGAS

O2	15.9 %
CO	0 ppm
Eff	74.9 %
CO2	2.8 %
T-Stk	310 °F
T-Air	99.4 °F
EA	250.0 %
CO (15)	0 ppm
NO	12.5 ppm
NO2	2.4 ppm
NOx	14.9 ppm
NO (15)	15 ppm
NO2 (15)	3 ppm
NOx (15)	17 ppm
Flow	0.77 LPM

Comments:

7.6 ~~7.5~~ 0

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

NOTES AND THEN PRINT TEST RESULTS

NOTES AND THEN PRINT TEST RESULTS

FORM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:06:38 AM
Date: 05/23/22

Fuel
NGAS

O ₂	13.9 %
CO	3 ppm
Eff	79.5 %
CO ₂	4.0 %
T-Stk	288 °F
T-Air	85.5 °F
EA	176.6 %
CO (15)	2 ppm
NO	22.4 ppm
NO ₂	2.9 ppm
NO _x	25.3 ppm
NO (15)	19 ppm
NO ₂ (15)	2 ppm
NO _x (15)	21 ppm
Flow	0.77 LPM

Comments:

Date: 5/23/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0700			
Recorded Test	0706			
O ₂	13.9%			
CO	3 ppm			
Eff	79.5%			
CO ₂	4.0%			
T-Stk	288 °F			
T-Air	85.5 °F			
EA	176.6%			
CO (15)	2 ppm			
NO	22.4 ppm			
NO ₂	2.9 ppm			
NO _x	25.3 ppm			
SO ₂	2 ppm			
NO (15)	19 ppm			
NO _x (15)	21 ppm			
SO ₂ (15)	2 ppm			
Mega Watts	8.0			
KSCF/hour	38			

Signature:

Date: 5/23/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	0720			
Recorded Test	0736			
O ₂	7.3%			
CO	24 ppm			
Eff	84.0%			
CO ₂	7.7%			
T-Stk	307 °F			
T-Air	93.3 °F			
EA	48.2%			
CO (15)	10 ppm			
NO	35.7 ppm			
NO ₂	7.6 ppm			
NO _x	43.3 ppm			
SO ₂	2 ppm			
NO (15)	16 ppm			
NO _x (15)	19 ppm			
SO ₂ (15)	2 ppm			
K lbs/hour	20 kg/hr			

Signature:

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:36:04 AM
Date: 05/23/22

Fuel
NGAS

O ₂	7.3 %
CO	24 ppm
Eff	84.0 %
CO ₂	7.7 %
T-Stk	307 °F
T-Air	93.3 °F
EA	48.2 %
CO (15)	10 ppm
NO	35.7 ppm
NO ₂	7.6 ppm
NO _x	43.3 ppm
NO (15)	16 ppm
NO ₂ (15)	3 ppm
NO _x (15)	19 ppm
Flow	0.76 LPM

Comments:

CP 56146

EMISSION TEST COLLEGE PARK ENERGY

Date: 5/30/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		0654	0650	
Recorded Test		0657	0653	
O2		13.3%	15.8%	
CO		2 PPM	7 PPM	
Eff		79.8%	24.8%	
CO2		4.3%	2.9%	
T-Stk		293 °F	961 °F	
T-Air		83 °F	78.6 °F	
EA		157%	250%	
CO (15)		2 PPM	8 PPM	
NO		19 PPM	18.3 PPM	
NO2		3.2 PPM	0 PPM	
NOX		27.2 PPM	18.3 PPM	
SO2		***	***	
NO (15)		15 PPM	21 PPM	
NOX (15)		17 PPM	21 PPM	
SO2 (15)		***	***	
Mega Watts		8.4	8	
KSCF/hour		45		

Signature:

Kenneth Hill

Date: 5/30/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	0709			
Recorded Test	0724			
O2	5.1%			
CO	0 PPM			
Eff	84.5%			
CO2	8.9%			
T-Stk	320 °F			
T-Air	93.9 °F			
EA	28.5%			
CO (15)	0 PPM			
NO	45.8 PPM			
NO2	1.3 PPM			
NOX	47.1 PPM			
SO2	***			
NO (15)	17 PPM			
NOX (15)	18 PPM			
SO2 (15)	***			
K lbs/hour	30			

Signature:

Kenneth Hill

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GLT
BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 06:53:00 AM
Date: 05/30/22

Fuel
NGAS

O ₂	15.8 %
CO	7 ppm
Eff	24.8 %
CO ₂	2.9 %
T-Stk	961 °F
T-Air	78.6 °F
EA	250.0 %
CO (15)	8 ppm
NO	18.3 ppm
NO ₂	0.0 ppm
NOx	18.3 ppm
NO (15)	21 ppm
NO ₂ (15)	0 ppm
NOx (15)	21 ppm
Flow	0.77 LPM

Comments:

MW - 8

GTZ UB
BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 06:57:11 AM
Date: 05/30/22

Fuel
NGAS

O ₂	13.3 %
CO	2 ppm
Eff	79.8 %
CO ₂	4.3 %
T-Stk	293 °F
T-Air	83.0 °F
EA	157.0 %
CO (15)	2 ppm
NO	19.0 ppm
NO ₂	3.2 ppm
NOx	22.2 ppm
NO (15)	15 ppm
NO ₂ (15)	3 ppm
NOx (15)	17 ppm
Flow	0.77 LPM

Comments:

MW - 8.4
KSCF/hr - 45

?176
R+u102J

BLR2

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:24:47 AM
Date: 05/30/22

Fuel
NGAS

O ₂	5.1 %
CO	0 ppm
Eff	84.5 %
CO ₂	8.9 %
T-Stk	320 °F
T-Air	93.9 °F
EA	28.5 %
CO (15)	0 ppm
NO	45.8 ppm
NO ₂	1.3 ppm
NOx	47.1 ppm
NO (15)	17 ppm
NO ₂ (15)	0 ppm
NOx (15)	18 ppm
Flow	0.76 LPM

Comments:

Klbs/hr - 30

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1705		
Recorded Test		1710		
O2		14.7%		
CO		1 ppm		
Eff		77.2%		
CO2		3.5%		
T-Stk		298°F		
T-Air		81.0°F		
EA		213.2%		
CO (15)		3 ppm		
NO		16.4 ppm		
NO2		2.9 ppm		
NOX		19.3 ppm		
SO2		1 ppm		
NO (15)		16 ppm		
NOX (15)		18 ppm		
SO2 (15)		1 ppm		
Mega Watts		7.5 MW		
KSCF/hour		28		

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

Paul J. Sheen



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 17:10:46
Date: 06/01/22

Fuel
NGAS

O ₂	14.7 %
CO	1 ppm
Eff	77.2 %
CO ₂	3.5 %
T-Stk	298 °F
T-Air	81.0 °F
EA	213.2 %
CO (0)	3 ppm
NO	16.4 ppm
NO ₂	2.9 ppm
NOx	19.3 ppm
NO (15)	16 ppm
NO ₂ (15)	3 ppm
NOx (15)	18 ppm
Flow	0.76 LPM

Comments: HRS-7.0 kpph
MW-7.5
KSCF-28

HIS SHEET
AND THEN PRINT TEST RESULTS
AND THEN PRINT TEST RESULTS

CP 56431

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0841			0850
Recorded Test	0847			0856
O2	14.4%			15.8%
CO	3 ppm			0 ppm
Eff	76.7%			73.2%
CO2	3.7%			2.9%
T-Stk	318°F			322°F
T-Air	82.9°F			86.7°F
EA	196.7%			250%
CO (15)	3 ppm			0 ppm
NO	21.1 ppm			11.7 ppm
NO2	2.8 ppm			2.7 ppm
NOX	23.9 ppm			14.3 ppm
SO2	19 ppm			14 ppm
NO (15)	22 ppm			17 ppm
NOX (15)	22 ppm			17 ppm
SO2 (15)	22 ppm			17 ppm
Mega Watts	9.0 MW	8.3 MW		8.3 MW
KSCF/hour	25			

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

BACHARACH

GT1DB

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 08:47:25 AM

Date: 06/06/22

Fuel
NGAS

O2	14.4 %
CO	3 ppm
Eff	76.7 %
CO2	3.7 %
T-Stk	318 °F
T-Air	82.9 °F
EA	196.7 %
CO (15)	3 ppm
NO	21.1 ppm
NO2	2.8 ppm
NOx	23.9 ppm
NO (15)	19 ppm
NO2 (15)	3 ppm
NOx (15)	22 ppm
Flow	0.77 LPM

BACHARACH

GT2

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 08:56:03 AM

Date: 06/06/22

Fuel
NGAS

O2	15.8 %
CO	0 ppm
Eff	73.2 %
CO2	2.9 %
T-Stk	322 °F
T-Air	86.7 °F
EA	250.0 %
CO (15)	0 ppm
NO	11.7 ppm
NO2	2.7 ppm
NOx	14.3 ppm
NO (15)	14 ppm
NO2 (15)	3 ppm
NOx (15)	17 ppm
Flow	0.77 LPM

Comments: _____

CP 500 11

EMISSION TEST COLLEGE PARK ENERGY

Date:	6/13/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		0754		0758	
Recorded Test		0757		0801	
O2		14.1 %		16.0 %	
CO		2 ppm		0 ppm	
Eff		80.1 %		75.3 %	
CO2		3.8 %		2.8 %	
T-Stk		269 °F		287 °F	
T-Air		84 °F		86.2 °F	
EA		185.1 %		250.0 %	
CO (15)		1 ppm		0 ppm	
NO		17.1 ppm		9.4 ppm	
NO2		2.7 ppm		2.4 ppm	
NOX		19.8 ppm		11.8 ppm	
SO2		xxx ppm		xxx ppm	
NO (15)		15 ppm		11 ppm	
NOX (15)		17 ppm		14 ppm	
SO2 (15)		xxx ppm		xxx ppm	
Mega Watts		8.4		7.9	
KSCF/hour		26			

Signature:

Kenneth Welch

Date:	BLR 2	BLR 4
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
K lbs/hour		

Signature:

*n/A*GT1 DB
BACHARACHBACHARACH, INC.
PCA 400
SN: 20123585Time: 07:57:39 AM
Date: 06/13/22Fuel
NGAS

O2:	14.1 %
CO	2 ppm
Eff	80.1 %
CO2	3.8 %
T-Stk	269 °F
T-Air	84.0 °F
EA	185.1 %
CO (15)	1 ppm
NO	17.1 ppm
NO2	2.7 ppm
NOx	19.8 ppm
NO (15)	15 ppm
NO2 (15)	2 ppm
NOx (15)	17 ppm
Flow	0.77 LPM

Comments:

MW - 8.4
KSCF/hr - 26

Boiler: RECORD TIME PROBE IS INSERTED (Start),

GT: RECORD TIME PROBE IS INSERTED (Start), W

WHEN FINISHED TESTING,

GT2
BACHARACHBACHARACH, INC.
PCA 400
SN: 20123585Time: 08:01:56 AM
Date: 06/13/22Fuel
NGAS

O2:	16.0 %
CO	0 ppm
Eff	75.3 %
CO2	2.8 %
T-Stk	287 °F
T-Air	86.2 °F
EA	250.0 %
CO (15)	0 ppm
NO	9.4 ppm
NO2	2.4 ppm
NOx	11.8 ppm
NO (15)	11 ppm
NO2 (15)	3 ppm
NOx (15)	14 ppm
Flow	0.76 LPM

Comments:

MW - 7.9

EMISSION TEST

Date: 20 JUN 2022	GT 1 DB
Start Test	1013
Recorded Test	1018
O2	15.3 %
CO	7 ppm
Eff	74.5 %
CO2	3.1 %
T-Stk	317 °F
T-Air	81 °F
EA	245.3 %
CO (15)	7 ppm
NO	17.6 ppm
NO2	4.9 ppm
NOX	22.5 ppm
SO2	***
NO (15)	19 ppm
NOX (15)	24 ppm
SO2 (15)	***
Mega Watts	8.8
KSCF/hour	6

Signature:

Evelyn

Date:	BLR 2
Start Test	
Recorded Test	
O2	
CO	
Eff	
CO2	
T-Stk	
T-Air	
EA	
CO (15)	
NO	
NO2	
NOX	
SO2	
NO (15)	
NOX (15)	
SO2 (15)	
K lbs/hour	

Signature:

#1 GT w/ D.B.

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 10:18:12 AM
Date: 06/20/22

Fuel
NGAS

O2	15.3 %
CO	7 ppm
Eff	74.5 %
CO2	3.1 %
T-Stk	317 °F
T-Air	81.0 °F
EA	245.3 %
CO (15)	7 ppm
NO	17.6 ppm
NO2	4.9 ppm
NOx	22.5 ppm
NO (15)	19 ppm
NO2 (15)	5 ppm
NOx (15)	24 ppm
Flow	0.77 LPM

Comments:

8.8 MW
6 Kscfh

GY

GT2
1023
1028
15.9 %
0 ppm
73.3 %
2.8 %
313 °F
85.3 °F
250.0 %
0 ppm
14.4 ppm
2.9 ppm
17.3 ppm

17 ppm
21 ppm

8.3

#2 GT NO D.B.

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 10:28:06 AM
Date: 06/20/22

Fuel
NGAS

O2	15.9 %
CO	0 ppm
Eff	73.3 %
CO2	2.8 %
T-Stk	313 °F
T-Air	85.3 °F
EA	250.0 %
CO (15)	0 ppm
NO	14.4 ppm
NO2	2.9 ppm
NOx	17.3 ppm
NO (15)	17 ppm
NO2 (15)	3 ppm
NOx (15)	21 ppm
Flow	0.77 LPM

Comments:

8.3 MW

AND THEN PRINT TEST RESULTS

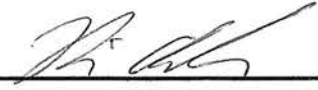
AND THEN PRINT TEST RESULTS

THIS SHEET

CP 56996

EMISSION TEST COLLEG

Date: 6/27/22	GT 1 DB	GT 2 DB
Start Test	0745	0753
Recorded Test	0752	0800
O2	13.8%	15.9%
CO	2 ppm	0 ppm
Eff	79.5%	73.6%
CO2	4.0%	2.8%
T-Stk	286°F	311°F
T-Air	82°F	83°F
EA	172.9%	150%
CO (15)	2 ppm	0 ppm
NO	19.9 ppm	11.3 ppm
NO2	2.9 ppm	2.4 ppm
NOX	22.8 ppm	13.7 ppm
SO2	XX	XX
NO (15)	17 ppm	13
NOX (15)	19 ppm	16
SO2 (15)	XX	XX
Mega Watts	8.4 MW	8.0 MW
KSCF/hour	37	

Signature: 

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 07:52:51 AM

Date: 06/27/22

Fuel

NGAS

O2:	13.8 %
CO	2 ppm
Eff	79.5 %
CO2	4.0 %
T-Stk	286 °F
T-Air	82.0 °F
EA	172.9 %
CO (15)	2 ppm
NO	19.9 ppm
NO2	2.9 ppm
NOx	22.8 ppm
NO (15)	17 ppm
NO2 (15)	2 ppm
NOx (15)	19 ppm
Flow	0.78 LPM

Comments:

GT2

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 08:00:37 AM

Date: 06/27/22

Fuel

NGAS

O2:	15.9 %
CO	0 ppm
Eff	73.6 %
CO2	2.8 %
T-Stk	311 °F
T-Air	83.0 °F
EA	250.0 %
CO (15)	0 ppm
NO	11.3 ppm
NO2	2.4 ppm
NOx	13.7 ppm
NO (15)	13 ppm
NO2 (15)	3 ppm
NOx (15)	16 ppm
Flow	0.76 LPM

Comments:

Date:	BLR 2	BLR 4	
Start Test			
Recorded Test			
O2			
CO			
Eff			
CO2			
T-Stk			
T-Air			
EA			
CO (15)			
NO			
NO2			
NOX			
SO2			
NO (15)			
NOX (15)			
SO2 (15)			
K lbs/hour			

Signature: _____

TO THIS SHEET

NOTES AND THEN PRINT TEST RESULTS

NOTES AND THEN PRINT TEST RESULTS



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

October 18, 2022

Dakota Blum
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Mr. Blum:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of July 1, 2022 through September 30, 2022.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Mark Alexander, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

University of Maryland- Combined Heating and Power Plant Facility September 2022

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	264.00	0.00	29401.65	0.00		694,990,000	0	726,925	0	0.0148	0.0000	0.0148	1.7860	0.0000	1.7860	0.0443	0.0000	0.0443	0.0886	0.0000	0.0886	0.0723	0.0000	0.0723	0.0723	0.0000	0.0723
Turbine 2	264.00	0.00	33104.32	0.00		597,390,000	0	624,840	0	0.0332	0.0000	0.0332	2.1439	0.0000	2.1439	0.2327	0.0000	0.2327	0.0997	0.0000	0.0997	0.0598	0.0000	0.0598	0.0598	0.0000	0.0598
Duct Burner 1	263.70		4633.56			140,200,000		146,642		0.0125		0.0125	0.0302		0.0302	0.0233		0.0233	0.0014		0.0014	0.0046		0.0046	0.0046		0.0046
Duct Burner 2	0.20		10.46			95,830,000		100,233		0.0000		0.0000	0.0001		0.0001	0.0001		0.0001	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000
Boiler 2	524.10	0.00	52251.48	0.00						0.0062	0.0000	0.0062	2.6664	0.0000	2.6664	0.0145	0.0000	0.0145	0.0154	0.0000	0.0154	0.2355	0.0000	0.2355	0.2355	0.0000	0.2355
Boiler 4	592.20	0.00	40245.02	0.00						0.0086	0.0000	0.0086	2.0703	0.0000	2.0703	0.0437	0.0000	0.0437	0.0119	0.0000	0.0119	0.1217	0.0000	0.1217	0.1217	0.0000	0.1217
Emerg. Gen.		31.90		0.194	63.0						0.0000	0.0000		0.0003	0.0003		0.0001	0.0001		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000
Mobile Boiler	26.90	0.00	226.97	0.00						0.0005	0.0000	0.0005	0.0041	0.0000	0.0041	0.0043	0.0000	0.0043	0.0001	0.0000	0.0001	0.0012	0.0000	0.0012	0.0012	0.0000	0.0012
Emissions Total										0.0759	0.0000	0.0759	8.7010	0.0003	8.7013	0.3627	0.0001	0.3628	0.2170	0.0000	0.2170	0.4952	0.0000	0.4952	0.4952	0.0000	0.4952

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.79	114.89	7.50	4.40	5.47	5.47
		OK	OK	OK	OK	OK	OK

CP 57236
CP 57234

EMISSION TEST COLLEGE

Date: 07/04/22	GT 1 DB	GT 2 DB
Start Test	0736	
Recorded Test	0739	
O2	13.8 %	
CO	1 ppm	
Eff	78.7 %	
CO2	4.0 %	
T-Stk	302 °F	
T-Air	82.5 °F	
EA	172.7 %	
CO (15)	1 ppm	
NO	23.0 ppm	
NO2	2.9 ppm	
NOX	25.9 ppm	
SO2	***	
NO (15)	19 ppm	
NOX (15)	22 ppm	
SO2 (15)	***	
Mega Watts	8.9	
KSCF/hour	34	

Signature:

Ken Well

Date: 07/04/22	BLR 2	BLR 4
Start Test	0738	
Recorded Test	0753	
O2	4.8 %	
CO	0 ppm	
Eff	84.2 %	
CO2	9.1 %	
T-Stk	328 °F	
T-Air	89.2 °F	
EA	26.4 %	
CO (15)	0 ppm	
NO	53 ppm	
NO2	1.4 ppm	
NOX	54 ppm	
SO2	***	
NO (15)	19 ppm	
NOX (15)	20 ppm	
SO2 (15)	***	
K lbs/hour	34	

Signature:

Ken Well

GT1 DB

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 07:39:24 AM

Date: 07/04/22

Fuel

NGAS

O2	13.8 %
CO	1 ppm
Eff	78.7 %
CO2	4.0 %
T-Stk	302 °F
T-Air	82.5 °F
EA	172.7 %
CO (15)	1 ppm
NO	23.0 ppm
NO2	2.9 ppm
NOx	25.9 ppm
NO (15)	19 ppm
NO2 (15)	2 ppm
NOx (15)	22 ppm
Flow	0.77 LPM

Comments:

MW - 8.9
KSCF - 34BLR2
BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 07:53:17 AM

Date: 07/04/22

Fuel

NGAS

O2	4.8 %
CO	0 ppm
Eff	84.2 %
CO2	9.1 %
T-Stk	328 °F
T-Air	89.2 °F
EA	26.4 %
CO (15)	0 ppm
NO	53 ppm
NO2	1.4 ppm
NOx	54 ppm
NO (15)	19 ppm
NO2 (15)	1 ppm
NOx (15)	20 ppm
Flow	0.76 LPM

Comments:

Klbs - 34

UTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

4 TO THIS SHEET

EMISSION TEST COLLEGE

2 BOILER

Date: 7/11/22	GT 1 DB	GT 2 DB
Start Test	9:13 am	
Recorded Test	9:18 am	
O2	13.3%	
CO	3 ppm	
Eff	79.6%	
CO2	4.3%	
T-Stk	300 °F	
T-Air	83.7 °F	
EA	154.2%	
CO (15)	2 ppm	
NO	24 ppm	
NO2	2.8 ppm	
NOX	26.8 ppm	
SO2		
NO (15)	19 ppm	
NOX (15)	21 ppm	
SO2 (15)		
Mega Watts	8.65	
KSCF/hour	45	

Signature:

William Montez

Date:	BLR 2	BLR 4
Start Test	9:20 am	
Recorded Test	9:33 am	
O2	5%	
CO	0 ppm	
Eff	84.5%	
CO2	9%	
T-Stk	322 °F	
T-Air	93.9 °F	
EA	27.7%	
CO (15)	0 ppm	
NO	47.8 ppm	
NO2	1.0 ppm	
NOX	48.8 ppm	
SO2		
NO (15)	18 ppm	
NOX (15)	18 ppm	
SO2 (15)		
K lbs/hour	33 Kpph	

Signature:

William Montez

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:33:44 AM
Date: 07/11/22

Fuel
NGAS

O₂ 5.0 %
CO 0 ppm
Eff 84.5 %
CO₂ 9.0 %
T-Stk 322 °F
T-Air 93.9 °F
EA 27.7 %
CO (15) 0 ppm
NO 47.8 ppm
NO₂ 1.0 ppm
NO_x 48.8 ppm
NO (15) 18 ppm
NO₂ (15) 0 ppm
NO_x (15) 18 ppm
Flow 0.76 LPM

Comments: 33 Kpph
695 ACFM

GT #1

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:13:46 AM
Date: 07/11/22

Fuel
NGAS

O₂ 13.3 %
CO 3 ppm
Eff 79.6 %
CO₂ 4.3 %
T-Stk 300 °F
T-Air 83.7 °F
EA 154.2 %
CO (15) 2 ppm
NO 24.0 ppm
NO₂ 2.8 ppm
NO_x 26.8 ppm
NO (15) 19 ppm
NO₂ (15) 2 ppm
NO_x (15) 21 ppm
Flow 0.76 LPM

Comments:

8.65 MW
45 scfm

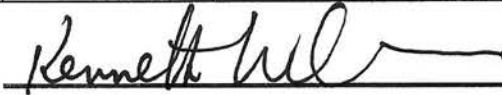
PRINT TEST RESULTS

PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

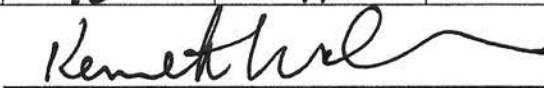
Date: 07/18/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			0638	0639
Recorded Test			0641	0642
O2			15.6 %	15.6 %
CO			2 PPM	0 PPM
Eff			27.2 %	26.9 %
CO2			3 %	3 %
T-Stk			972 °F	965 °F
T-Air			88.5 °F	90.1 °F
EA			250 %	250 %
CO (15)			3 PPM	0 PPM
NO			18.9 PPM	10.9 PPM
NO2			0 PPM	1.7 PPM
NOX			18.9 PPM	12.6 PPM
SO2			—	—
NO (15)			21 PPM	12 PPM
NOX (15)			18.9 PPM	14 PPM
SO2 (15)			—	—
Mega Watts			8.6	8.3
KSCF/hour				

Signature:



Date: 07/18/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	0620	0617		
Recorded Test	0635	0632		
O2	3.5 %	6.1 %		
CO	5 PPM	0 PPM		
Eff	82.1 %	79.2 %		
CO2	9.8 %	8.4 %		
T-Stk	420 °F	473 °F		
T-Air	84.5 °F	80.2 °F		
EA	18 %	36.3 %		
CO (15)	2 PPM	0 PPM		
NO	41.7 PPM	72 PPM		
NO2	2.5 PPM	0 PPM		
NOX	44.2 PPM	72 PPM		
SO2	—	—		
NO (15)	14 PPM	28 PPM		
NOX (15)	15 PPM	28 PPM		
SO2 (15)	—	—		
K lbs/hour	78	41		

Signature:



WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

614

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 06:41:23 AM
Date: 07/18/22

Fuel
NGAS

O₂: 15.6 %
CO: 2 ppm
Eff: 27.2 %
CO₂: 3.0 %
T-Stk: 972 °F
T-Air: 88.5 °F
EA: 250.0 %
CO(15): 3 ppm
NO: 18.9 ppm
NO₂: 0.0 ppm
NOx: 18.9 ppm
NO(15): 21 ppm
NO₂(15): 0 ppm
NOx(15): 21 ppm
Flow: 0.75 LPM

Comments:

MW - 8.6

572

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 06:42:51 AM
Date: 07/18/22

Fuel
NGAS

O₂: 15.6 %
CO: 0 ppm
Eff: 26.9 %
CO₂: 3.0 %
T-Stk: 965 °F
T-Air: 90.1 °F
EA: 250.0 %
CO(15): 0 ppm
NO: 10.9 ppm
NO₂: 1.7 ppm
NOx: 12.6 ppm
NO(15): 12 ppm
NO₂(15): 2 ppm
NOx(15): 14 ppm
Flow: 0.75 LPM

Comments:

MW - 8.3

3422

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 06:35:50 AM
Date: 07/18/22

Fuel
NGAS

O₂: 3.5 %
CO: 5 ppm
Eff: 82.1 %
CO₂: 9.8 %
T-Stk: 420 °F
T-Air: 84.5 °F
EA: 18.0 %
CO(15): 2 ppm
NO: 41.7 ppm
NO₂: 2.5 ppm
NOx: 44.2 ppm
NO(15): 14 ppm
NO₂(15): 1 ppm
NOx(15): 15 ppm
Flow: 0.75 LPM

Comments:

klbs/hr - 78

3424

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 06:32:48 AM
Date: 07/18/22

Fuel
NGAS

O₂: 6.1 %
CO: 0 ppm
Eff: 79.2 %
CO₂: 8.4 %
T-Stk: 473 °F
T-Air: 80.2 °F
EA: 36.3 %
CO(15): 0 ppm
NO: 72 ppm
NO₂: 0.0 ppm
NOx: 72 ppm
NO(15): 28 ppm
NO₂(15): 0 ppm
NOx(15): 28 ppm
Flow: 0.76 LPM

Comments:

klbs/hr - 41

EMISSION T

Date: 7/25/22	GT 1 DB
Start Test	12:15
Recorded Test	12:21
O2	14.5 %
CO	2 ppm
Eff	78 %
CO2	3.6
T-Stk	301
T-Air	90.2
EA	201.9 %
CO (15)	2 ppm
NO	13.7
NO2	3.6
NOX	17.3
SO2	XXXX
NO (15)	13 ppm
NOX (15)	16 ppm
SO2 (15)	XXXX
Mega Watts	7.75
KSCF/hour	

Signature:

Date:	BLR 2
Start Test	
Recorded Test	
O2	
CO	
Eff	
CO2	
T-Stk	
T-Air	
EA	
CO (15)	
NO	
NO2	
NOX	
SO2	
NO (15)	
NOX (15)	
SO2 (15)	
K lbs/hour	

Signature:

MW: 7.75

WITH D.B

GT# 1



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 12:21:35 PM
Date: 07/25/22

Fuel
NGAS

O2: 14.5 %
CO 2 ppm
Eff 78.0 %
CO2 3.6 %
T-Stk 301 °F
T-Air 90.2 °F
EA 201.9 %
CO (15) 2 ppm
NO 13.7 ppm
NO2 3.6 ppm
NOx 17.3 ppm
NO (15) 13 ppm
NO2 (15) 3 ppm
NOx (15) 16 ppm
Flow 0.75 LPM

Comments:

w/DB

GY

GT2
12:30
12:38
16.1 %
0 ppm
78 %
304 °
95.4 °

7.8 ppm
2.4 ppm
16.1 ppm
XXXX
XXXX
XXXX
XXXX
7.1

BLR 4



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 12:38:24 PM
Date: 07/25/22

Fuel
NGAS

O2: 16.1 %
CO 0 ppm
Eff --- %
CO2 --- %
T-Stk 304 °F
T-Air 95.4 °F
EA --- %
CO (15) --- ppm
NO 7.8 ppm
NO2 2.4 ppm
NOx 10.1 ppm
NO (15) --- ppm
NO2 (15) --- ppm
NOx (15) --- ppm
Flow 0.76 LPM

Comments: NOX(15) 12.41

WITH OUT D.B

GT# 2 MW: 7.1

) THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

SHEET

Time: 08:33:13 AM
Date: 08/01/22

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	8:29am 15.8%			8:21am 14.4%
Recorded Test	8:33am			8:26am 3ppm
O2	15.8%			14.4%
CO	0ppm			3ppm
Eff	73.1%			77.4%
CO2	2.9%			3.7%
T-Stk	320°F			304°F
T-Air	84.6°F			81.5°F
EA	250%			198%
CO (15)	0 ppm			2 ppm
NO	10.6 ppm			17.2 ppm
NO2	2.8 ppm			4.0 ppm
NOX	13.4 ppm			21.2 ppm
SO2				
NO (15)	12 ppm			16 ppm
NOX (15)	16 ppm			19 ppm
SO2 (15)				
Mega Watts	8.6			8.6
KSCF/hour	26			

Signature:

William Bortec

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

Fuel
NGAS

GT #1 DB

O2	15.8 %
CO	0 ppm
Eff	73.1 %
CO2	2.9 %
T-Stk	320 °F
T-Air	84.6 °F
EA	250.0 %
CO (15)	0 ppm
NO	10.6 ppm
NO2	2.8 ppm
NOx	13.4 ppm
NO (15)	12 ppm
NO2 (15)	3 ppm
NOx (15)	16 ppm
Flow	0.76 LPM

8.6 64

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:26:44 AM
Date: 08/01/22

GT #2 Fuel
NGAS

O2	14.4 %
CO	3 ppm
Eff	77.4 %
CO2	3.7 %
T-Stk	304 °F
T-Air	81.5 °F
EA	198.4 %
CO (15)	2 ppm
NO	17.2 ppm
NO2	4.0 ppm
NOx	21.2 ppm
NO (15)	16 ppm
NO2 (15)	4 ppm
NOx (15)	19 ppm
Flow	0.76 LPM

8.6 54

TS

CP57980

EMISSION TEST COLLEGE PARK ENERGY

Date: 8/8/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0901			0906
Recorded Test	0904			0909
O2	14.3 %			16.0 %
CO	3 PPM			0 PPM
Eff	78.9 %			74.7 %
CO2	3.7 %			2.8 %
T-Stk	289 °F			299 °F
T-Air	88.2 °F			89.9 °F
EA	193.6 %			250 %
CO (15)	3 PPM			0 PPM
NO	15.1 PPM			9.1 PPM
NO2	2.8 PPM			2.5 PPM
NOX	17.8 PPM			11.6 PPM
SO2	***			***
NO (15)	14 PPM			11 PPM
NOX (15)	16 PPM			14 PPM
SO2 (15)	***			***
Mega Watts	7.2			7.5
KSCF/hour	32			

Signature:

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature:

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:09:54 AM
Date: 08/08/22

Fuel
NGAS

O ₂	16.0 %
CO	0 ppm
Eff	74.7 %
CO ₂	2.8 %
T-Stk	299 °F
T-Air	89.9 °F
EA	250.0 %
CO (15)	0 ppm
NO	9.1 ppm
NO ₂	2.5 ppm
NOx	11.6 ppm
NO (15)	11 ppm
NO ₂ (15)	3 ppm
NOx (15)	14 ppm
Flow	0.76 LPM

Comments:

MW - 7.5

GILDB



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:04:18 AM
Date: 08/08/22

Fuel
NGAS

O ₂	14.3 %
CO	3 ppm
Eff	78.9 %
CO ₂	3.7 %
T-Stk	289 °F
T-Air	88.2 °F
EA	193.6 %
CO (15)	3 ppm
NO	15.1 ppm
NO ₂	2.8 ppm
NOx	17.8 ppm
NO (15)	14 ppm
NO ₂ (15)	2 ppm
NOx (15)	16 ppm
Flow	0.76 LPM

Comments:

MW - 7.2
1 KSCF/hr - 32

CP 58143

EMISSION TEST COLLEGE PARK ENERGY

Date: 8/15/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1027			1031
Recorded Test	1030			1034
O2	14.3 %			15.9 %
CO	1 PPM			0 PPM
Eff	77.7 %			73.1 %
CO2	3.7 %			2.8 %
T-Stk	300 °F			314 °F
T-Air	78.1 °F			80.5 °F
EA	192.1 %			250 %
CO (15)	1 PPM			0 PPM
NO	17.6 PPM			11.6 PPM
NO2	2.6 PPM			2.6 PPM
NOX	20.2 PPM			14.3 PPM
SO2	*** PPM			***
NO (15)	16 PPM			14 PPM
NOX (15)	18 PPM			17 PPM
SO2 (15)	***			***
Mega Watts	7.5			8.1
KSCF/hour	32			

Signature: Kenneth Blue

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 10:34:08 AM
Date: 08/15/22

Fuel
NGAS

O ₂	15.9 %
CO	0 ppm
EFF	73.1 %
CO ₂	2.8 %
T-Stk	314 °F
T-Air	80.5 °F
EA	250.0 %
CO (15)	0 ppm
NO	11.6 ppm
NO ₂	2.6 ppm
NO _x	14.3 ppm
NO (15)	14 ppm
NO ₂ (15)	3 ppm
NO _x (15)	17 ppm
Flow	0.76 LPM

Comments:

KSCF -
MW - 8.1



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 10:30:07 AM
Date: 08/15/22

Fuel
NGAS

O ₂	14.3 %
CO	1 ppm
EFF	77.7 %
CO ₂	3.7 %
T-Stk	300 °F
T-Air	78.1 °F
EA	192.1 %
CO (15)	1 ppm
NO	17.6 ppm
NO ₂	2.6 ppm
NO _x	20.2 ppm
NO (15)	16 ppm
NO ₂ (15)	2 ppm
NO _x (15)	18 ppm
Flow	0.76 LPM

Comments:

MW - 7.5
KSCF - 32

#1 w/DB

#2 NO/DB

EMISSION T

GY

Date:	8/20/22	GT 1 DB
Start Test	09:35	
Recorded Test	0945	
O2	14.9%	
CO	4 ppm	
Eff	76.2%	
CO2	3.4%	
T-Stk	312 °F	
T-Air	84.8 °F	
EA	220.8 °F	
CO (15)	4 ppm	
NO	15.9 ppm	
NO2	2.3 ppm	
NOX	18.7 ppm	
SO2		
NO (15)	11.6 ppm	
NOX (15)	18.7 ppm	
SO2 (15)		
Mega Watts		
KSCF/hour		



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:45:22 AM
Date: 08/20/22

Fuel
NGAS

O2 14.9 %
CO 4 ppm
Eff 76.2 %
CO2 3.4 %
T-Stk 312 °F
T-Air 84.8 °F
EA 220.8 °F
CO(15) 4 ppm
NO 15.9 ppm
NO2 2.3 ppm
NOx 18.2 ppm
NO(15) 11.6 ppm
NO2(15) 2 ppm
NOx(15) 18 ppm
Flow 0.76 LPM

Signature: _____

Date:	BLF	2	BLR 4
Start Test			
Recorded Test			
O2			
CO			
Eff			
CO2			
T-Stk			
T-Air			
EA			
CO (15)			
NO			
NO2			
NOX			
SO2			
NO (15)			
NOX (15)			
SO2 (15)			
K lbs/hour			

Signature: _____

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:52:57 AM
Date: 08/20/22

Fuel
NGAS

O2 15.9 %
CO 0 ppm
Eff 73.2 %
CO2 2.8 %
T-Stk 319 °F
T-Air 89.5 °F
EA 250.0 °F
CO(15) 0 ppm
NO 10.3 ppm
NO2 1.9 ppm
NOx 12.2 ppm
NO(15) 12 ppm
NO2(15) 2 ppm
NOx(15) 15 ppm
Flow 0.77 LPM

Comments: _____

UNTESTED (start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

RM TO THIS SHEET

BACHARACH

EMISSION TEST

BACHARACH, INC.
PCA 400
SN: 20123585

Y

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Date:	8/22/22	GT 1 DB
Start Test		
Recorded Test	0700	
O2	14.3 %	
CO	4 ppm	
Eff	77.6 %	
CO2	3.7 %	
T-Stk	305 °	
T-Air	82.2 °F	
EA	194.6 %	
CO (15)	3 ppm	
NO	16.4 ppm	
NO2	2.5 ppm	
NOX	18.9 ppm	
SO2		
NO (15)	15 ppm	
NOX (15)	17 ppm	
SO2 (15)		
Mega Watts		
KSCF/hour		

Time: 07:00:55 AM
Date: 08/22/22

Fuel
NGAS

O₂ 14.3 %
CO 4 ppm
Eff 77.6 %
CO₂ 3.7 %
T-Stk 305 °F
T-Air 82.2 °F
EA 194.6 %
CO (15) 3 ppm
NO 16.4 ppm
NO₂ 2.5 ppm
NO_x 18.9 ppm
NO (15) 15 ppm
NO₂ (15) 2 ppm
NO_x (15) 17 ppm
Flow 0.76 LPM

GT2
0707
15.8 %
0
74.2
2.9
309
86.6
250 %
0
10.5
2.2
12.7
12 ppm
15 ppm

Time: 07:07:33 AM
Date: 08/22/22

Fuel
NGAS

O₂ 15.8 %
CO 0 ppm
Eff 74.2 %
CO₂ 2.9 %
T-Stk 309 °F
T-Air 86.6 °F
EA 250.0 %
CO (15) 0 ppm
NO 10.5 ppm
NO₂ 2.2 ppm
NO_x 12.7 ppm
NO (15) 12 ppm
NO₂ (15) 2 ppm
NO_x (15) 15 ppm
Flow 0.76 LPM

Signature: _____

Comments:

HRSG #1 w/DB
GT

Date:	BLR 2	BLR 4
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
K lbs/hour		

Signature: _____

M. Jackson

Comments:

GT2 No/DB

NOTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

M TO THIS SHEET

CP 58499

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1341			1351
Recorded Test	1347			1357
O2	14.5%			16.0%
CO	2 ppm			0 ppm
Eff	76.4%			73.4%
CO2	3.6%			2.8%
T-Stk	319°F			323°F
T-Air	89.0°F			98.0°F
EA	202.9%			250.0%
CO (15)	1 ppm			0 ppm
NO	14.3 ppm			3.7 ppm
NO2	2.2 ppm			1.9 ppm
NOX	16.4 ppm			5.6 ppm
SO2	XX			XX
NO (15)	13 ppm			4 ppm
NOX (15)	15 ppm			7 ppm
SO2 (15)	XX			XX
Mega Watts	7.2			7.0
KSCF/hour	31			

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

LGT DB
BACHARACH
BACHARACH, INC.
PCA 400
SN: 20123585
WITH 2.8

Time: 01:47:04 PM
Date: 08/29/22

Fuel
NGAS

O2: 14.5 %
CO: 2 ppm
Eff: 76.8 %
CO2: 3.6 %
T-Stk: 319 °F
T-Air: 89.0 °F
EA: 202.9 %
CO (15): 1 ppm
NO: 14.3 ppm
NO2: 2.2 ppm
NOx: 16.4 ppm
NO (15): 13 ppm
NO2 (15): 2 ppm
NOx (15): 15 ppm
Flow: 0.81 LPM

LGT DB
BACHARACH
BACHARACH, INC.
PCA 400
SN: 20123585
WITH 2.8

Time: 01:57:07 PM
Date: 08/29/22

Fuel
NGAS

O2: 16.0 %
CO: 0 ppm
Eff: 73.4 %
CO2: 2.8 %
T-Stk: 323 °F
T-Air: 98.0 °F
EA: 250.0 %
CO (15): 0 ppm
NO: 3.7 ppm
NO2: 1.9 ppm
NOx: 5.6 ppm
NO (15): 4 ppm
NO2 (15): 2 ppm
NOx (15): 7 ppm
Flow: 0.76 LPM

EMISSION TEST COLLEGE PARK ENERGY

Date: 9/5/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0723			0727
Recorded Test	0726			0730
O2	15 %			15.9 %
CO	4 PPM			0 PPM
Eff	75.6 %			72.7 %
CO2	3.3 %			2.8 %
T-Stk	315 °F			328 °F
T-Air	84.3 °F			85.2 °F
EA	227.8 %			250 %
CO (15)	4 PPM			0 PPM
NO	15.2 PPM			11.1 PPM
NO2	3.0 PPM			2.5 PPM
NOX	18.2 PPM			13.7 PPM
SO2	—			—
NO (15)	15 PPM			13 PPM
NOX (15)	18 PPM			16 PPM
SO2 (15)	—			—
Mega Watts	7.4			8
KSCF/hour	17			

Signature:

Kenneth Will

Date: 9/5/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		0704		
Recorded Test		0719		
O2		12.3 %		
CO		0 PPM		
Eff		76.1 %		
CO2		4.9 %		
T-Stk		392 °F		
T-Air		78 °F		
EA		127.3 %		
CO (15)		0 PPM		
NO		46.3 PPM		
NO2		1.1 PPM		
NOX		47.4 PPM		
SO2				
NO (15)		32 PPM		
NOX (15)		33 PPM		
SO2 (15)				
K lbs/hour		12		

Signature:

Kenneth Will

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT1DB

L

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:26:21 AM
Date: 09/05/22

Fuel
NGAS

O ₂	15.0 %
CO	4 ppm
Eff	75.6 %
CO ₂	3.3 %
T-Stk	315 °F
T-Air	84.3 °F
EA	227.8 %
CO(15)	4 ppm
NO	15.2 ppm
NO ₂	3.0 ppm
NO _x	18.2 ppm
NO(15)	15 ppm
NO ₂ (15)	3 ppm
NO _x (15)	18 ppm
Flow	0.76 LPM

Comments:

MW - 7.4
KSCF - 17

GT2

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:30:20 AM
Date: 09/05/22

Fuel
NGAS

O ₂	15.9 %
CO	0 ppm
Eff	72.7 %
CO ₂	2.8 %
T-Stk	323 °F
T-Air	85.2 °F
EA	250.0 %
CO(15)	0 ppm
NO	11.1 ppm
NO ₂	2.5 ppm
NO _x	13.7 ppm
NO(15)	13 ppm
NO ₂ (15)	3 ppm
NO _x (15)	16 ppm
Flow	0.77 LPM

Comments:

MW - 8

BLR4

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:19:35 AM
Date: 09/05/22

Fuel
NGAS

O ₂	12.3 %
CO	0 ppm
Eff	76.1 %
CO ₂	4.9 %
T-Stk	392 °F
T-Air	78.0 °F
EA	127.3 %
CO(15)	0 ppm
NO	46.3 ppm
NO ₂	1.1 ppm
NO _x	47.4 ppm
NO(15)	32 ppm
NO ₂ (15)	1 ppm
NO _x (15)	33 ppm
Flow	0.76 LPM

Comments:

12-12

CP58606

Date:	9/8/22	GT 1 DB
Start Test		08:57
Recorded Test		
O2		15.2%
CO		5 ppm
Eff		75.5%
CO2		3.2%
T-Stk		308°
T-Air		80.5 35.5
EA		235.8°
CO (15)		5 ppm
NO		15.3 ppm
NO2		3.5 ppm
NOX		18.9 ppm
SO2		<u> </u>
NO (15)		116 ppm
NOX (15)		19 ppm
SO2 (15)		<u> </u>
Mega Watts		
KSCF/hour		

Date:	BLR 2
Start Test	
Recorded Test	
O2	
CO	
Eff	
CO2	
T-Stk	
T-Air	
EA	
CO (15)	
NO	
NO2	
NOX	
SO2	
NO (15)	
NOX (15)	
SO2 (15	
K lbs/hour	

) THIS SHEET

CP 59196

BACHARACH, INC.

PCA 400

SN: 20123585

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Time: 12:11:12 PM

Date: 09/19/22

Fuel
NGAS

BLR 2

O₂ 3.4 %
 CO 10 ppm
 Eff 82.0 %
 CO₂ 9.9 %
 T-Stk 419 °F
 T-Air 79.6 °F
 EA 17.4 %
 CO (15) 4 ppm
 NO 49.2 ppm
 NO₂ 3.3 ppm
 NO_x 53 ppm
 NO (15) 17 ppm
 NO₂ (15) 1 ppm
 NO_x (15) 18 ppm
 Flow 0.75 LPM

Comments:

Klbs - 80

Signature: _____

Date: 9/19/2022	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1156	1209		
Recorded Test	1211	1214		
O2	3.4 %	6.4 %		
CO	10 ppm	0 ppm		
Eff	82 %	79.5 %		
CO2	9.9 %	8.2 %		
T-Stk	419 °F	460 °F		
T-Air	79.6 °F	83.8 °F		
EA	17.4 %	38.9 %		
CO (15)	4 ppm	0 ppm		
NO	49.2 ppm	73 ppm		
NO2	3.3 ppm	0 ppm		
NOX	53 ppm	73 ppm		
SO2	—	—		
NO (15)	17 ppm	30 ppm		
NOX (15)	18 ppm	30 ppm		
SO2 (15)	—	—		
K lbs/hour	80	35		

PCA 400

SN: 20123585

Time: 12:14:23 PM

Date: 09/19/22

Fuel
NGAS

BLR 4

O₂ 6.4 %
 CO 0 ppm
 Eff 79.5 %
 CO₂ 8.2 %
 T-Stk 460 °F
 T-Air 83.8 °F
 EA 38.9 %
 CO (15) 0 ppm
 NO 73 ppm
 NO₂ 0.0 ppm
 NO_x 73 ppm
 NO (15) 30 ppm
 NO₂ (15) 0 ppm
 NO_x (15) 30 ppm
 Flow 0.75 LPM

Comments:

Klbs - 35

Signature: _____

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature: _____

BACHARACH

BLR4

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 09:28:12 PM

Date: 09/26/22

Fuel

NGAS

O2	6.6 %
CO	0 ppm
Eff	79.8 %
CO2	8.1 %
T-Stk	457 °F
T-Air	95.0 °F
EA	41.2 %
CO (15)	0 ppm
NO	70 ppm
NO2	0.0 ppm
NOx	70 ppm
NO (15)	29 ppm
NO2 (15)	0 ppm
NOx (15)	29 ppm
Flow	0.75 LPM

Comments: _____

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 10:48:46 PM

Date: 09/26/22

Fuel

NGAS

O2	3.7 %
CO	10 ppm
Eff	83.3 %
CO2	9.7 %
T-Stk	374 °F
T-Air	87.2 °F
EA	19.2 %
CO (15)	3 ppm
NO	49.4 ppm
NO2	3.8 ppm
NOx	53 ppm
NO (15)	17 ppm
NO2 (15)	1 ppm
NOx (15)	18 ppm
Flow	0.75 LPM

Comments: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	2232		2232	2122
Recorded Test	2248		2248	2128
O2	3.7%		3.7%	6.6%
CO	10 ppm		10 ppm	0 ppm
Eff	83.3%		83.3%	79.8%
CO2	9.7%		9.7%	8.1%
T-Stk	374°		374°	457°
T-Air	87.2°		87.2°	95.0°
EA			41.2%	41.2%
CO (15)			3 ppm	0 ppm
NO			49.4 ppm	70 ppm
NO2			3.8 ppm	0 ppm
NOX			53 ppm	70 ppm
SO2			XX	XX
NO (15)			17 ppm	29 ppm
NOX (15)			18 ppm	29 ppm
SO2 (15)			XX	XX
K lbs/hour			60 KppH	35 KppH

Signature: _____

INUTES AND THEN PRINT TEST RESULTS

INUTES AND THEN PRINT TEST RESULTS

RM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature:

Boiler: RECORD TIME PROBE IS INSERTED (Start), W

GT: RECORD TIME PROBE IS INSERTED (Start), WA

WHEN FINISHED TESTING A

Date:	9/29/22	BLR 2
Start Test		
Recorded Test	07:48	
O2	3.5%	
CO	13 ppm	
Eff	82.6%	
CO2	9.8%	
T-Stk	397	
T-Air	80.7	
EA	17.8	
CO (15)	4 ppm	
NO	55 ppm	
NO2	4.1 ppm	
NOX	59 ppm	
SO2		
NO (15)	18 ppm	
NOX (15)	20	
SO2 (15)		
K lbs/hour		

Signature:

M. J. Jar
Sy/8

BACHARACH, INC.	
PCA 400	
SN: 20123585	
Time: 07:48:11 AM	
Date: 09/29/22	
Fuel	
NGAS	
O2:	3.5 %
CO	13 ppm
Eff	82.6 %
CO2	9.8 %
T-Stk	397 °F
T-Air	80.7 °F
EA	17.8 %
CO (15)	4 ppm
NO	55 ppm
NO2	4.1 ppm
NOx	59 ppm
NO (15)	18 ppm
NO2 (15)	1 ppm
NOx (15)	20 ppm
Flow	0.75 LPM

Comments:

BLR #2

BACHARACH, INC.	
PCA 400	
SN: 20123585	
Time: 07:55:33 AM	
Date: 09/29/22	
Fuel	
NGAS	
O2:	6.7 %
CO	0 ppm
Eff	79.8 %
CO2	8.0 %
T-Stk	441 °F
T-Air	82.6 °F
EA	42.1 %
CO (15)	0 ppm
NO	80 ppm
NO2	1.1 ppm
NOx	81 ppm
NO (15)	33 ppm
NO2 (15)	0 ppm
NOx (15)	34 ppm
Flow	0.76 LPM

Time: 07:55:33 AM
Date: 09/29/22

Fuel	
NGAS	
O2:	6.7 %
CO	0 ppm
Eff	79.8 %
CO2	8.0 %
T-Stk	441 °F
T-Air	82.6 °F
EA	42.1 %
CO (15)	0 ppm
NO	80 ppm
NO2	1.1 ppm
NOx	81 ppm
NO (15)	33 ppm
NO2 (15)	0 ppm
NOx (15)	34 ppm
Flow	0.76 LPM

Comments:

BLR #4



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

January 13, 2023

Dakota Blum
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Mr. Blum:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of October 1, 2022, through December 31, 2022.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Mark Alexander, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

University of Maryland- Combined Heating and Power Plant Facility October 2022

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	0.00	0.00	0.00	0.00		679,570,000	0	710,796	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Turbine 2	0.00	0.00	0.00	0.00		597,390,000	0	624,840	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Duct Burner 1	0.00		0.00			138,680,000		145,052		0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000		
Duct Burner 2	0.00		0.00			95,830,000		100,233		0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000		
Boiler 2	636.50	0.00	73768.76	0.00						0.0088	0.0000	0.0088	3.7645	0.0000	3.7645	0.0205	0.0000	0.0205	0.0218	0.0000	0.0218	0.3325	0.0000	0.3325	0.3325	0.0000	0.3325
Boiler 4	648.10	0.00	144089.03	0.00						0.0309	0.0000	0.0309	7.4121	0.0000	7.4121	0.1565	0.0000	0.1565	0.0426	0.0000	0.0426	0.4359	0.0000	0.4359	0.4359	0.0000	0.4359
Emerg. Gen.		0.00		0.00	63.0						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Mobile Boiler	142.10	0.00	2167.21	0.00						0.0044	0.0000	0.0044	0.0392	0.0000	0.0392	0.0408	0.0000	0.0408	0.0007	0.0000	0.0007	0.0115	0.0000	0.0115	0.0115	0.0000	0.0115
Emissions Total										0.0440	0.0000	0.0440	11.2158	0.0000	11.2158	0.2177	0.0000	0.2177	0.0650	0.0000	0.0650	0.7799	0.0000	0.7799	0.7799	0.0000	0.7799

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.80	119.85	7.57	4.39	5.79	5.79
		OK	OK	OK	OK	OK	OK

University of Maryland- Combined Heating and Power Plant Facility December 2022

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	196.10	0.00	26023.24	0.00		625,330,000	0	654,064	0	0.0131	0.0000	0.0131	1.5808	0.0000	1.5808	0.0392	0.0000	0.0392	0.0784	0.0000	0.0784	0.0640	0.0000	0.0640	0.0640	0.0000	0.0640
Turbine 2	507.80	0.00	64357.30	0.00		565,900,000	0	591,903	0	0.0646	0.0000	0.0646	4.1679	0.0000	4.1679	0.4523	0.0000	0.4523	0.1939	0.0000	0.1939	0.1163	0.0000	0.1163	0.1163	0.0000	0.1163
Duct Burner 1	23.90		0.00			124,330,000		130,043		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Duct Burner 2	307.50		13231.27			89,950,000		94,083		0.0358		0.0358	0.0864		0.0864	0.0664		0.0664	0.0039		0.0039	0.0130		0.0130	0.0130		0.0130
Boiler 2	727.40	4.20	47932.75	508.91						0.0057	0.0004	0.0061	2.4460	0.0310	2.4771	0.0133	0.0056	0.0189	0.0142	0.0112	0.0254	0.2161	0.0199	0.2360	0.2161	0.0199	0.2360
Boiler 4	732.30	5.50	289254.33	392.20						0.0620	0.0003	0.0623	14.8796	0.0256	14.9053	0.3141	0.0060	0.3201	0.0854	0.0084	0.0939	0.8750	0.0135	0.8886	0.8750	0.0135	0.8886
Emerg. Gen.		0.50		6.599	64.0						0.0003	0.0003		0.0106	0.0106		0.0028	0.0028		0.0000	0.0000		0.0002	0.0002		0.0002	
Mobile Boiler	302.60	4.00	2976.77	789.00						0.0060	0.0002	0.0062	0.0538	0.0108	0.0646	0.0560	0.0020	0.0581	0.0009	0.0001	0.0010	0.0158	0.0053	0.0211	0.0158	0.0053	0.0211
Emissions Total										0.1872	0.0012	0.1884	23.2145	0.0781	23.2926	0.9414	0.0164	0.9578	0.3766	0.0198	0.3964	1.3003	0.0389	1.3392	1.3003	0.0389	1.3392

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.75	130.53	7.51	4.22	6.66	6.67
		OK	OK	OK	OK	OK	OK

BACHARACH, INC.
PCA 400
SN: 20123585

BACHARACH, INC.
PCA 400
SN: 20123585

BACHARACH, INC.
PCA 400
SN: 20123585

Date: _____
Start Test _____
Recorded Test _____
O2 _____
CO _____
Eff _____
CO2 _____
T-Stk _____
T-Air _____
EA _____
CO (15) _____
NO _____
NO2 _____
NOX _____
SO2 _____
NO (15) _____
NOX (15) _____
SO2 (15) _____
Mega Watts _____
KSCF/hour _____

Time: 10:58:41 AM
Date: 10/03/22

Fuel
NGAS

O2 3.3 %
CO 12 ppm
Eff 82.4 %
CO2 9.9 %
T-Stk 405 °F
T-Air 81.5 °F
EA 16.8 %
CO (15) 4 ppm
NO 51 ppm
NO2 4.2 ppm
NOx 55 ppm
NO (15) 17 ppm
NO2 (15) 1 ppm
NOx (15) 18 ppm
Flow 0.75 LPM

Comments: _____

Time: 10:40:41 AM
Date: 10/03/22

Fuel
NGAS

O2 6.0 %
CO 0 ppm
Eff 79.5 %
CO2 8.4 %
T-Stk 467 °F
T-Air 84.0 °F
EA 35.5 %
CO (15) 0 ppm
NO 77 ppm
NO2 1.6 ppm
NOx 79 ppm
NO (15) 31 ppm
NO2 (15) 1 ppm
NOx (15) 31 ppm
Flow 0.76 LPM

Comments: _____

Time: 10:10:46 AM
Date: 10/03/22

Fuel
NGAS

O2 6.1 %
CO 0 ppm
Eff 81.7 %
CO2 8.3 %
T-Stk 376 °F
T-Air 70.4 °F
EA 36.9 %
CO (15) 0 ppm
NO 27.2 ppm
NO2 0.0 ppm
NOx 27.2 ppm
NO (15) 11 ppm
NO2 (15) 0 ppm
NOx (15) 11 ppm
Flow 0.76 LPM

Comments: _____

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1042	1022	1042	0953
Recorded Test	1058	1040	1058	1010
O2	3.3 %	6.0 %	3.3 %	6.1 %
CO	12 ppm	0 ppm	12 ppm	0 ppm
Eff	82.4 %	79.5 %	82.4 %	81.7 %
CO2	9.9 %	8.4 %	9.9 %	8.3 %
T-Stk	405 °F	467 °F	405 °F	376 °F
T-Air	81.5 °F	84.0 °F	81.5 °F	70.4 °F
EA	16.8 %	35.5 %	16.8 %	36.9 %
CO (15)	4 ppm	0 ppm	4 ppm	0 ppm
NO	51 ppm	77 ppm	51 ppm	27.2 ppm
NO2	4.2 ppm	1.6 ppm	4.2 ppm	0.0 ppm
NOX	55 ppm	79 ppm	55 ppm	27.2 ppm
SO2	XX	XX	XX	XX
NO (15)	17 ppm	31 ppm	17 ppm	11 ppm
NOX (15)	18 ppm	31 ppm	18 ppm	11 ppm
SO2 (15)	XX	XX	XX	XX
K lbs/hour	69 KppH	39 KppH	69 KppH	39 KppH

Signature: _____

FORM TO THIS SHEET

5 MINUTES AND THEN PRINT TEST RESULTS

15 MINUTES AND THEN PRINT TEST RESULTS



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 12:46:43 PM
Date: 10/10/22

Fuel
NGAS

O ₂	3.5 %
CO	8 ppm
Eff	82.8 %
CO ₂	9.8 %
T-Stk	383 °F
T-Air	74.9 °F
EA	18.0 %
CO(15)	3 ppm
NO	60 ppm
NO ₂	3.9 ppm
NO _x	64 ppm
NO(15)	20 ppm
NO ₂ (15)	1 ppm
NO _x (15)	22 ppm
Flow	0.74 LPM

Comments:

11bs/hr - 63



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 12:53:53 PM
Date: 10/10/22

Fuel
NGAS

O ₂	7.0 %
CO	0 ppm
Eff	80.2 %
CO ₂	7.8 %
T-Stk	422 °F
T-Air	82.2 °F
EA	45.2 %
CO(15)	0 ppm
NO	77 ppm
NO ₂	1.1 ppm
NO _x	78 ppm
NO(15)	33 ppm
NO ₂ (15)	0 ppm
NO _x (15)	33 ppm
Flow	0.74 LPM

Comments:

11bs/hr - 24

CP59801

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

Date: 10/10/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1236	1243		
Recorded Test	1246	1253		
O2	3.5 %	7.0 %		
CO	8 ppm	0 ppm		
Eff	82.8 %	80.2 %		
CO2	9.8 %	7.8 %		
T-Stk	383 °F	422 °F		
T-Air	74.9 °F	82.2 °F		
EA	18 %	45.2 %		
CO (15)	3 ppm	0 ppm		
NO	60 ppm	77 ppm		
NO2	3.9 ppm	1.1 ppm		
NOX	64 ppm	78 ppm		
SO2	—	—		
NO (15)	20 ppm	33 ppm		
NOX (15)	22 ppm	33 ppm		
SO2 (15)	—	—		
K lbs/hour	63	24		

Signature: _____

Ken W. L.

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature:

Date:	10/17/22	mobile BLR
Start Test	13:38	BLR 2
Recorded Test	13:42	
O2	3.3%	
CO	35 ppm	
Eff	80.4%	
CO2	9.9%	
T-Stk	479°	
T-Air	77.8°	
EA	16.9%	
CO (15)	12 ppm	
NO	22.2 ppm	
NO2	0	
NOX	22.2 ppm	
SO2		
NO (15)	7 ppm	
NOX (15)	7 ppm	
SO2 (15)		
K lbs/hour		

Signature:

N. Guck

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 01:42:37 PM
Date: 10/17/22

Fuel
NGAS

O2: 3.3 %
CO 35 ppm
Eff 80.4 %
CO2 9.9 %
T-Stk 479 °F
T-Air 77.8 °F
EA 16.9 %
CO (15) 12 ppm
NO 22.2 ppm
NO2 0.0 ppm
NOx 22.2 ppm
NO (15) 7 ppm
NO2 (15) 0 ppm
NOx (15) 7 ppm
Flow 0.74 LPM

Comments:

mobile Boiler

Boiler: RECORD TIME PROBE IS INSERT

GT: RECORD TIME PROBE IS INSERT

WHEN FINISHED

BLR 4

BACHARACH, INC.

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 11:36:30 AM
Date: 10/17/22

Fuel
NGAS

O2: 5.5 %
CO 0 ppm
Eff 77.1 %
CO2 8.7 %
T-Stk 556 °F
T-Air 78.1 °F
EA 31.4 %
CO (15) 0 ppm
NO 95 ppm
NO2 0.0 ppm
NOx 95 ppm
NO (15) 36 ppm
NO2 (15) 0 ppm
NOx (15) 36 ppm
Flow 0.73 LPM

Comments:

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Date:
Start Test
Recorded Test
O2
CO
Eff
CO2
T-Stk
T-Air
EA
CO (15)
NO
NO2
NOX
SO2
NO (15)
NOX (15)
SO2 (15)
Mega Watts
KSCF/hour

Time: 11:58:26 AM
Date: 10/24/22

Fuel
NGAS

O2: 3.7 %
CO: 18 ppm
Eff: 83.3 %
CO2: 9.7 %
T-Stk: 366 °F
T-Air: 78.9 °F
EA: 18.9 %
CO(15): 6 ppm
NO: 44.2 ppm
NO2: 4.3 ppm
NOx: 48.5 ppm
NO(15): 15 ppm
NO2(15): 1 ppm
NOx(15): 17 ppm
Flow: 0.75 LPM

Time: 09:57:20 AM
Date: 10/24/22

Fuel
NGAS

O2: 6.9 %
CO: 0 ppm
Eff: 79.7 %
CO2: 7.9 %
T-Stk: 451 °F
T-Air: 95.1 °F
EA: 43.9 %
CO(15): 0 ppm
NO: 60 ppm
NO2: 1.3 ppm
NOx: 61 ppm
NO(15): 25 ppm
NO2(15): 1 ppm
NOx(15): 26 ppm
Flow: 0.75 LPM

Comments:

Comments:

Signature:

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1130	0941		
Recorded Test	1158	0957		
O2	3.7%	6.9%		
CO	18 ppm	0 ppm		
Eff	83.3%	79.7%		
CO2	9.7%	7.9%		
T-Stk	366 °F	451 °F		
T-Air	78.9 °F	95.1 °F		
EA	18.9%	43.9%		
CO (15)	6 ppm	0 ppm		
NO	44.2 ppm	60 ppm		
NO2	4.3 ppm	1.3 ppm		
NOX	48.5 ppm	61 ppm		
SO2	XX	XX		
NO (15)	15 ppm	25 ppm		
NOX (15)	17 ppm	26 ppm		
SO2 (15)	XX	XX		
K lbs/hour	54 KppH	32 KppH		

Signature:

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

BACHARACH, INC.
PCA 400
SN: 20123585

ENERGY



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 10:37:06 AM
Date: 10/31/22

Fuel
NGAS

O ₂	6.8 %
CO	0 ppm
Eff	79.3 %
CO ₂	8.0 %
T-Stk	454 °F
T-Air	80.4 °F
EA	42.6 %
CO (15)	0 ppm
NO	66 ppm
NO ₂	1.2 ppm
NOx	67 ppm
NO (15)	27 ppm
NO ₂ (15)	0 ppm
NOx (15)	28 ppm
Flow	0.75 LPM

Date:	GT
Start Test	
Recorded Test	
O ₂	
CO	
Eff	
CO ₂	
T-Stk	
T-Air	
EA	
CO (15)	
NO	
NO ₂	
NOX	
SO ₂	
NO (15)	
NOX (15)	
SO ₂ (15)	
Mega Watts	
KSCF/hour	

Time: 10:32:08 AM
Date: 10/31/22

Fuel
NGAS

O ₂	3.5 %
CO	6 ppm
Eff	82.4 %
CO ₂	9.8 %
T-Stk	399 °F
T-Air	76.4 °F
EA	17.7 %
CO (15)	2 ppm
NO	52 ppm
NO ₂	3.6 ppm
NOx	55 ppm
NO (15)	18 ppm
NO ₂ (15)	1 ppm
NOx (15)	19 ppm
Flow	0.75 LPM

Comments:

BIR # 2

Signature:

Date:	BLR 2	BLR 2	BLR 4
Start Test	10:25		
Recorded Test	10:32		10:37
O ₂	3.5 %		6.8 %
CO	6 ppm		0 ppm
Eff	82.4 %		79.3 %
CO ₂	9.8 %		8.0 %
T-Stk	399 °		454 °
T-Air	76.4 °		80.4 °
EA	17.7 %		42.6 %
CO (15)	2 ppm		0 ppm
NO	52 ppm		66 ppm
NO ₂	3.6 ppm		1.2 ppm
NOX	55 ppm		67 ppm
SO ₂			
NO (15)	18 ppm		27 ppm
NOX (15)	19 ppm		28 ppm
SO ₂ (15)			
K lbs/hour			

Signature:

RL Jackson

Comments:

BIR # 4

ND THEN PRINT TEST RESULTS

D THEN PRINT TEST RESULTS

S SHEET

BACHARACH, INC.
PCA 400
SN: 20123585

PA

BACHARACH, INC.
PCA 400
SN: 20123585

Date:
Start Test
Recorded Test
O2
CO
Eff
CO2
T-Stk
T-Air
EA
CO (15)
NO
NO2
NOX
SO2
NO (15)
NOX (15)
SO2 (15)
Mega Watts
KSCF/hour

Time: 10:06:29 AM
Date: 11/07/22

Fuel
NGAS

O2: 3.2 %
CO 20 ppm
Eff 82.0 %
CO2 10.0 %
T-Stk 423 °F
T-Air 80.4 °F
EA 16.2 %
CO (15) 7 ppm
NO 47.4 ppm
NO2 4.4 ppm
NOx 52 ppm
NO (15) 16 ppm
NO2 (15) 1 ppm
NOx (15) 17 ppm
Flow 0.75 LPM

Comments:

Time: 10:22:26 AM
Date: 11/07/22

Fuel
NGAS

O2: 8.8 %
CO 0 ppm
Eff 78.8 %
CO2 6.8 %
T-Stk 442 °F
T-Air 99.5 °F
EA 65.0 %
CO (15) 0 ppm
NO 32.0 ppm
NO2 1.2 ppm
NOx 33.3 ppm
NO (15) 16 ppm
NO2 (15) 1 ppm
NOx (15) 16 ppm
Flow 0.75 LPM

Comments:

Signature:

Date: 11/7/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	0850	0907		
Recorded Test	0906	0922		
O2	3.2 %	8.8 %		
CO	20 ppm	0 ppm		
Eff	82.0 %	78.8 %		
CO2	10.0 %	6.8 %		
T-Stk	423 °F	442 °F		
T-Air	80.4 °F	99.5 °F		
EA	16.2 %	65.0 %		
CO (15)	7 ppm	0 ppm		
NO	47.4 ppm	32.0 ppm		
NO2	4.4 ppm	1.2 ppm		
NOX	52 ppm	33.3 ppm		
SO2	XX	XX		
NO (15)	16 ppm	16 ppm		
NOX (15)	17 ppm	16 ppm		
SO2 (15)	XX	XX		
K lbs/hour	80 Kpph	25 Kpph		

Signature:

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

, WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

CP 6082

EMISSION TEST C

Date:	GT 1 DB	G
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 07:59:56 AM

Date: 11/14/22

Fuel
NGAS

O₂: 3.2 %
 CO: 35 ppm
 Eff: 81.4 %
 CO₂: 10.0 %
 T-Stk: 438 °F
 T-Air: 72.5 °F
 EA: 16.1 %
 CO (15): 12 ppm
 NO: 57 ppm
 NO₂: 4.7 ppm
 NOx: 62 ppm
 NO (15): 19 ppm
 NO₂ (15): 2 ppm
 NOx (15): 21 ppm
 Flow: 0.75 LPM

Comments:

68

Signature: _____

Date: 11/14/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test 0805	0750	0800		
Recorded Test	0759	0805		
O2	3.2 %	5.6 %		
CO	35 PPM	0 PPM		
Eff	81.4 %	78.1 %		
CO2	10.0 %	8.6 %		
T-Stk	438 °F	516 °F		
T-Air	72.5 °F	77.0 °F		
EA	16.1 %	32.8 %		
CO (15)	12 PPM	0 PPM		
NO	57 PPM	93 PPM		
NO2	4.7 PPM	1.5 PPM		
NOX	62 PPM	95 PPM		
SO2	—	—		
NO (15)	19 PPM	36 PPM		
NOX (15)	21 PPM	37 PPM		
SO2 (15)	—	—		
K lbs/hour	68	51		

Signature: _____

Kenneth

BACHARACH #2

GT2

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 08:05:48 AM

Date: 11/14/22

Fuel
NGAS

O₂: 5.6 %
 CO: 0 ppm
 Eff: 78.1 %
 CO₂: 8.6 %
 T-Stk: 516 °F
 T-Air: 77.0 °F
 EA: 32.8 %
 CO (15): 0 ppm
 NO: 93 ppm
 NO₂: 1.5 ppm
 NOx: 95 ppm
 NO (15): 36 ppm
 NO₂ (15): 1 ppm
 NOx (15): 37 ppm
 Flow: 0.74 LPM

Comments:

57

UTES AND THEN PRINT TEST RESULTS

S AND THEN PRINT TEST RESULTS

O THIS SHEET

#2

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

#4

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Date: _____

Start Test _____

Recorded Test _____

O2 _____

CO _____

Eff _____

CO2 _____

T-Stk _____

T-Air _____

EA _____

CO (15) _____

NO _____

NO2 _____

NOX _____

SO2 _____

NO (15) _____

NOX (15) _____

SO2 (15) _____

Mega Watts _____

KSCF/hour _____

Time: 08:22:17 AM

Date: 11/21/22

Fuel

NGAS

O₂ 3.5 %

CO 45 ppm

Eff 80.4 %

CO₂ 9.8 %

T-Stk 462 °F

T-Air 65.7 °F

EA 17.7 %

CO(15) 15 ppm

NO 56 ppm

NO₂ 5.3 ppm

NO_x 61 ppm

NO(15) 19 ppm

NO₂(15) 2 ppm

NO_x(15) 21 ppm

Flow 0.75 LPM

Comments:

Signature:

Boiler #2

EUB

Time: 08:27:51 AM

Date: 11/21/22

Fuel

NGAS

O₂ 5.4 %

CO 0 ppm

Eff 77.2 %

CO₂ 8.7 %

T-Stk 545 °F

T-Air 68.4 °F

EA 31.1 %

CO(15) 0 ppm

NO 99 ppm

NO₂ 2.3 ppm

NO_x 101 ppm

NO(15) 38 ppm

NO₂(15) 1 ppm

NO_x(15) 39 ppm

Flow 0.75 LPM

Comments:

Boiler #4

Fuel

NGAS

O₂ 3.8 %

CO 24 ppm

Eff 80.4 %

CO₂ 9.7 %

T-Stk 464 °F

T-Air 68.6 °F

EA 19.5 %

CO(15) 8 ppm

NO 25.0 ppm

NO₂ 0.0 ppm

NO_x 25.0 ppm

NO(15) 9 ppm

NO₂(15) 0 ppm

NO_x(15) 9 ppm

Flow 0.75 LPM

Comments:

Mobile Boiler

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	0807	0812	1341	
Recorded Test	0822	0827	1401	
O2	3.5%	5.4%	3.8%	
CO	45 ppm	0 ppm	24 ppm	
Eff	80.4%	77.2%	80.4%	
CO2	9.8%	8.7%	9.7%	
T-Stk	462 °F	545 °F	464 °F	
T-Air	65.7 °F	68.4 °F	68.6 °F	
EA	17.7%	31.1%	19.5%	
CO (15)	15 ppm	0 ppm	8 ppm	
NO	56 ppm	99 ppm	25 ppm	
NO2	5.3 ppm	2.3 ppm	0 ppm	
NOX	61 ppm	101 ppm	25 ppm	
SO2	—	—	—	
NO (15)	19 ppm	38 ppm	9 ppm	
NOX (15)	21 ppm	39 ppm	9 ppm	
SO2 (15)	—	—	—	
K lbs/hour	95	55	30	

Signature:

Mob Alacab

MOBILE

NOTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

M TO THIS SHEET

EMISSION TEST

Date:	GT 1 DB
Start Test	
Recorded Test	
O2	
CO	
Eff	
CO2	
T-Stk	
T-Air	
EA	
CO (15)	
NO	
NO2	
NOX	
SO2	
NO (15)	
NOX (15)	
SO2 (15)	
Mega Watts	
KSCF/hour	

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 10:07:54 PM
Date: 11/28/22

Fuel
NGAS

O2: 3.5 %
CO 18 ppm
Eff 81.7 %
CO2 9.8 %
T-Stk 440 °F
T-Air 88.9 °F
EA 17.7 %
CO (15) 6 ppm
NO 52 ppm
NO2 4.6 ppm
NOx 57 ppm
NO (15) 18 ppm
NO2 (15) 2 ppm
NOx (15) 19 ppm
Flow 0.73 LPM

Comments:

Signature:

Date: 11/28/22	BLR 2	BLR 4
Start Test	21:52	22:15
Recorded Test	22:07	22:31
O2	3.5%	6.0%
CO	18ppm	0ppm
Eff	81.7%	79.8%
CO2	9.8%	8.4%
T-Stk	440°	480°
T-Air	88.9°	108°
EA	17.7%	36.2%
CO (15)	6ppm	0ppm
NO	52ppm	74ppm
NO2	4.6ppm	1.3ppm
NOX	57ppm	76ppm
SO2		
NO (15)	18ppm	30ppm
NOX (15)	19ppm	30ppm
SO2 (15)		
K lbs/hour	85	40

Signature:

N. Jackson

BY

GT2

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 10:31:10 PM
Date: 11/28/22

Fuel
NGAS

O2: 6.0 %
CO 0 ppm
Eff 79.8 %
CO2 8.4 %
T-Stk 480 °F
T-Air 108.3 °F
EA 36.2 %
CO (15) 0 ppm
NO 74 ppm
NO2 1.3 ppm
NOx 76 ppm
NO (15) 30 ppm
NO2 (15) 1 ppm
NOx (15) 30 ppm
Flow 0.73 LPM

Comments:

TES AND THEN PRINT TEST RESULTS

ES AND THEN PRINT TEST RESULTS

TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

MOBILE				
Date: 12/05/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	0938	0943	0950	
Recorded Test	0942	0949	0957	
O2	3.7 %	6. %	4 %	
CO	13 PPM	0 PPM	22 PPM	
Eff	81.6 %	78.4 %	80.7 %	
CO2	9.7 %	8.4 %	9.6 %	
T-Stk	420 °F	501 °F	462 °F	
T-Air	71.3 °F	81.5 °F	82.5 °F	
EA	19 %	35.8 %	20.8 %	
CO (15)	4.5 PPM	0 PPM	8 PPM	
NO	54 PPM	88 PPM	21.6 PPM	
NO2	5.1 PPM	2.0 PPM	1.0 PPM	
NOX	59 PPM	90 PPM	22.6 PPM	
SO2	—	—	—	
NO (15)	19 PPM	35 PPM	8 PPM	
NOX (15)	20 PPM	36 PPM	8 PPM	
SO2 (15)	—	—	—	
K lbs/hour	75	50	55	

Signature: _____

Kenneth W. [Signature]

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

~~BACHARACH~~
BUR 2
BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:42:30 AM
Date: 12/05/22

Fuel
NGAS

O ₂	3.7 %
CO	13 ppm
Eff	81.6 %
CO ₂	9.7 %
T-Stk	420 °F
T-Air	71.3 °F
EA	19.0 %
CO(15)	5 ppm
NO	54 ppm
NO ₂	5.1 ppm
NO _x	59 ppm
NO(15)	19 ppm
NO ₂ (15)	2 ppm
NO _x (15)	20 ppm
Flow	0.74 LPM

Comments:

75

~~BACHARACH~~
BUR 4
BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:49:52 AM
Date: 12/05/22

Fuel
NGAS

O ₂	6.0 %
CO	0 ppm
Eff	78.4 %
CO ₂	8.4 %
T-Stk	501 °F
T-Air	81.5 °F
EA	35.8 %
CO(15)	0 ppm
NO	88 ppm
NO ₂	2.0 ppm
NO _x	90 ppm
NO(15)	35 ppm
NO ₂ (15)	1 ppm
NO _x (15)	36 ppm
Flow	0.73 LPM

Comments:

50

~~BACHARACH~~
MOBILE
BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:57:51 AM
Date: 12/05/22

Fuel
NGAS

O ₂	4.0 %
CO	22 ppm
Eff	80.7 %
CO ₂	9.6 %
T-Stk	462 °F
T-Air	82.5 °F
EA	20.8 %
CO(15)	8 ppm
NO	21.6 ppm
NO ₂	1.0 ppm
NO _x	22.6 ppm
NO(15)	8 ppm
NO ₂ (15)	0 ppm
NO _x (15)	8 ppm
Flow	0.76 LPM

Comments: 55

CP61650

EMISSION TEST COLLEGE PARK ENERGY

Date: 12/12/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				11.72
Recorded Test				11.28
O2				15.6%
CO				5 ppm
Eff				94.2%
CO2				3.0%
T-Stk				77°F
T-Air				73.6°F
EA				250.0%
CO (15)				5 ppm
NO				25.1 ppm
NO2				0.0 ppm
NOX				25.1 ppm
SO2				XX
NO (15)				28 ppm
NOX (15)				28 ppm
SO2 (15)				XX
Mega Watts				10.5 MW
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

CP 61810



BACHARACH INC.
PCA 400
SN: 20123585

GT2

Time: 11:28:12 AM
Date: 12/12/22

Fuel
NGAS

O2	15.6 %
CO	5 ppm
Eff	99.2 %
CO2	3.0 %
T-Stk	77 °F
T-Air	73.6 °F
EA	250.0 %
CO (15)	5 ppm
NO	25.1 ppm
NO2	0.0 ppm
NOx	25.1 ppm
NO (15)	28 ppm
NO2 (15)	0 ppm
NOx (15)	28 ppm
Flow	0.78 LPM

Comments:

MINUTES AND THEN PRINT TEST RESULTS

MINUTES AND THEN PRINT TEST RESULTS

ARM TO THIS SHEET



BLR2

BACHARACH, INC.
PCA 400
SN: 20123585



BLR4

BACHARACH, INC.
PCA 400
SN: 20123585

CP61810

Date:	12/12/22
Start Test	
Recorded Test	
O2	
CO	
Eff	
CO2	
T-Stk	
T-Air	
EA	
CO (15)	
NO	
NO2	
NOX	
SO2	
NO (15)	
NOX (15)	
SO2 (15)	
Mega Watts	
KSCF/hour	

Time: 08:04:33 AM
Date: 12/12/22

Fuel
NGAS

O2: 3.4 %
CO: 13 ppm
Eff: 81.2 %
CO2: 9.9 %
T-Stk: 448 °F
T-Air: 78.2 °F
EA: 17.5 %
CO(15): 4 ppm
NO: 59 ppm
NO2: 4.4 ppm
NOx: 63 ppm
NO(15): 20 ppm
NO2(15): 1 ppm
NOx(15): 21 ppm
Flow: 0.74 LPM

100 KppH
Comments:

Time: 08:22:59 AM
Date: 12/12/22

Fuel
NGAS

O2: 5.4 %
CO: 0 ppm
Eff: 77.6 %
CO2: 8.8 %
T-Stk: 567 °F
T-Air: 104.9 °F
EA: 30.8 %
CO(15): 0 ppm
NO: 84 ppm
NO2: 2.4 ppm
NOx: 86 ppm
NO(15): 32 ppm
NO2(15): 1 ppm
NOx(15): 33 ppm
Flow: 0.74 LPM

60 KppH
Comments:

Signature:

[Signature]

Date:	12/12/22	BLR 2	BLR 4	BLR 3e BLR
Start Test		0747	0806	1103
Recorded Test		0804	0822	1119
O2		3.4%	5.4%	6.1%
CO		13ppm	0ppm	1ppm
Eff		81.2%	75.8%	81.5%
CO2		9.9%	8.8%	8.4%
T-Stk		448°F	567°F	391°F
T-Air		78.2°F	104.9°F	75.7°F
EA		17.5%	30.8%	36.4%
CO (15)		4ppm	0ppm	0ppm
NO		59ppm	84ppm	23.7ppm
NO2		4.4ppm	2.4ppm	1.4ppm
NOX		63ppm	86ppm	25.1ppm
SO2		xx	xx	xx
NO (15)		20	32ppm	9ppm
NOX (15)		21	33ppm	10ppm
SO2 (15)		xx	xx	xx
K lbs/hour		100 KppH	60 KppH	20%

Signature:

[Signature]



BACHARACH, INC.
PCA 400
SN: 20123585

Mobile
BLR

Time: 11:19:21 AM
Date: 12/12/22

Fuel
NGAS

O2: 6.1 %
CO: 1 ppm
Eff: 81.5 %
CO2: 8.4 %
T-Stk: 391 °F
T-Air: 75.7 °F
EA: 36.4 %
CO(15): 0 ppm
NO: 23.7 ppm
NO2: 1.4 ppm
NOx: 25.1 ppm
NO(15): 9 ppm
NO2(15): 1 ppm
NOx(15): 10 ppm
Flow: 0.78 LPM

Comments:

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

EMISSION TEST COLLI

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature: _____

Date: 12/19/22	BLR 2	BLR 4
Start Test	12552	1304
Recorded Test	1255	1307
O2	5.2 %	5.6 %
CO	0 ppm	0 ppm
Eff	83.9 %	78.2 %
CO2	8.9 %	8.6 %
T-Stk	317 °F	514 °F
T-Air	72.1 °F	79.9 °F
EA	29.4 %	32.4 %
CO (15)	0 ppm	0 ppm
NO	67 ppm	102 ppm
NO2	1.4 ppm	1.1 ppm
NOX	69 ppm	103 ppm
SO2	***	***
NO (15)	25 ppm	39 ppm
NOX (15)	26 ppm	40 ppm
SO2 (15)	***	***
K lbs/hour	32	70

Signature: _____

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 12:55:58 PM
Date: 12/19/22

Fuel
NGAS

O2: 5.2 %
CO: 0 ppm
Eff: 83.9 %
CO2: 8.9 %
T-Stk: 317 °F
T-Air: 72.1 °F
EA: 29.4 %
CO (15): 0 ppm
NO: 67 ppm
NO2: 1.4 ppm
NOx: 69 ppm
NO (15): 25 ppm
NO2 (15): 1 ppm
NOx (15): 26 ppm
Flow: 0.77 LPM

Comments: _____

KLbs - 32

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 01:07:45 PM
Date: 12/19/22

Fuel
NGAS

O2: 5.6 %
CO: 0 ppm
Eff: 78.2 %
CO2: 8.6 %
T-Stk: 514 °F
T-Air: 79.9 °F
EA: 32.4 %
CO (15): 0 ppm
NO: 102 ppm
NO2: 1.1 ppm
NOx: 103 ppm
NO (15): 39 ppm
NO2 (15): 0 ppm
NOx (15): 40 ppm
Flow: 0.77 LPM

Comments: _____

KLbs - 70

INUTES AND THEN PRINT TEST RESULTS

NOTES AND THEN PRINT TEST RESULTS

CRM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 12/27/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		07:25		
Recorded Test		07:32	07:09	
O2		13.7%	16%	
CO		8ppm	0ppm	
Eff		78.2%	100%	
CO2		4.1%	2.8%	
T-Stk		296°F	66°F	
T-Air		66.2°F	76.5°F	
EA		170.3%	250%	
CO (15)		6ppm	0ppm	
NO		20.6ppm	13ppm	
NO2		4.1ppm	0ppm	
NOX		24.7ppm	13ppm	
SO2				
NO (15)		17ppm	16ppm	
NOX (15)		20ppm	16ppm	
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

Date: 12/27/22	BLR 2	BLR 4	Mobile BLR	BLR 4
Start Test	06:40	06:38	07:09	06:20
Recorded Test	06:53		07:19	06:36
O2	8.9%		6.6%	5.6%
CO	43ppm		0ppm	0ppm
Eff	83.2%		81.3%	78.9%
CO2	6.8%		8.1%	8.6%
T-Stk	302°F		389°F	487°F
T-Air	84.3°F		75.3°F	77.0°F
EA	66.4%		40.8%	32.8%
CO (15)	21ppm		0ppm	0ppm
NO	31ppm		26.1ppm	98ppm
NO2	12.4ppm		0ppm	0ppm
NOX	43.4ppm		26.1ppm	98ppm
SO2				
NO (15)	15ppm		11ppm	38ppm
NOX (15)	21ppm		11ppm	38ppm
SO2 (15)				
K lbs/hour				

Signature: _____

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:32:17 AM
Date: 12/27/22

Fuel
NGAS

O ₂	13.7 %
CO	8 ppm
Eff	78.2 %
CO ₂	4.1 %
T-Stk	296 °F
T-Air	66.2 °F
EA	170.3 %
CO(15)	6 ppm
NO	20.6 ppm
NO ₂	4.1 ppm
NOx	24.7 ppm
NO(15)	17 ppm
NO ₂ (15)	3 ppm
NOx(15)	20 ppm
Flow	0.78 LPM

Comments:

GT#2 w/DB

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:09:33 AM
Date: 12/27/22

Fuel
NGAS

O ₂	16.0 %
CO	0 ppm
Eff	100.0 %
CO ₂	2.8 %
T-Stk	66 °F
T-Air	76.5 °F
EA	250.0 %
CO(15)	0 ppm
NO	13.0 ppm
NO ₂	0.0 ppm
NOx	13.0 ppm
NO(15)	16 ppm
NO ₂ (15)	0 ppm
NOx(15)	16 ppm
Flow	0.80 LPM

Comments:

GT#7

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 06:53:04 AM
Date: 12/27/22

Fuel
NGAS

O ₂	8.9 %
CO	43 ppm
Eff	83.2 %
CO ₂	6.8 %
T-Stk	302 °F
T-Air	84.3 °F
EA	66.1 %
CO(15)	21 ppm
NO	31.0 ppm
NO ₂	12.4 ppm
NOx	43.4 ppm
NO(15)	15 ppm
NO ₂ (15)	6 ppm
NOx(15)	21 ppm
Flow	0.77 LPM

Comments:

#2 BIR

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 06:36:38 AM
Date: 12/27/22

Fuel
NGAS

O ₂	5.6 %
CO	0 ppm
Eff	78.9 %
CO ₂	8.6 %
T-Stk	487 °F
T-Air	77.0 °F
EA	32.8 %
CO(15)	0 ppm
NO	98 ppm
NO ₂	0.0 ppm
NOx	98 ppm
NO(15)	38 ppm
NO ₂ (15)	0 ppm
NOx(15)	38 ppm
Flow	0.77 LPM

Comments:

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:19:19 AM
Date: 12/27/22

Fuel
NGAS

O ₂	6.6 %
CO	0 ppm
Eff	81.3 %
CO ₂	8.1 %
T-Stk	389 °F
T-Air	75.3 °F
EA	40.8 %
CO(15)	0 ppm
NO	26.1 ppm
NO ₂	0.0 ppm
NOx	26.1 ppm
NO(15)	11 ppm
NO ₂ (15)	0 ppm
NOx(15)	11 ppm
Flow	0.78 LPM

Comments:

Mobile BIR



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

April 18, 2023

Dakota Blum
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Mr. Blum:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of January 1, 2023, through March 31, 2023.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Mark Alexander, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	0.00	0.00	0.00	0.00		568,090,000	0	595,046	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Turbine 2	524.20	0.00	65538.95	0.00		540,780,000	0	566,440	0	0.0655	0.0000	0.0655	4.2273	0.0000	4.2273	0.4588	0.0000	0.4588	0.1966	0.0000	0.1966	0.1180	0.0000	0.1180	0.1180	0.0000	0.1180
Duct Burner 1	0.00		0.00			93,640,000		98,083		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Duct Burner 2	480.00		21263.24			90,830,000		95,140		0.0573		0.0573	0.1382		0.1382	0.1063		0.1063	0.0063		0.0063	0.0209		0.0209	0.0209		0.0209
Boiler 2	407.50	10.20	12839.64	497.59						0.0015	0.0004	0.0019	0.6526	0.0303	0.6829	0.0035	0.0055	0.0090	0.0038	0.0110	0.0148	0.0576	0.0195	0.0771	0.0576	0.0195	0.0771
Boiler 4	649.60	5.40	20103.71	692.45						0.0043	0.0005	0.0048	1.0300	0.0452	1.0752	0.0217	0.0105	0.0323	0.0059	0.0149	0.0208	0.0606	0.0239	0.0845	0.0606	0.0239	0.0845
Emerg. Gen.		0.50		6.587	1.0						0.0003	0.0003		0.0105	0.0105		0.0028	0.0028		0.0000	0.0000		0.0002	0.0002		0.0002	0.0002
Mobile Boiler	108.40	4.80	1295.70	2021.00						0.0026	0.0006	0.0031	0.0233	0.0277	0.0511	0.0243	0.0052	0.0295	0.0004	0.0002	0.0006	0.0069	0.0135	0.0204	0.0069	0.0135	0.0204
Emissions Total										0.1313	0.0017	0.1330	6.0713	0.1139	6.1852	0.6147	0.0240	0.6387	0.2129	0.0261	0.2390	0.2639	0.0571	0.3210	0.2639	0.0572	0.3211

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.60	123.67	7.01	3.91	6.36	6.36
		OK	OK	OK	OK	OK	OK

University of Maryland- Combined Heating and Power Plant Facility March 2023

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	0.00	0.00	0.00	0.00		524,600,000	0	549,492	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Turbine 2	733.00	0.00	91808.99	0.00		554,390,000	0	580,696	0	0.0918	0.0000	0.0918	5.9217	0.0000	5.9217	0.6427	0.0000	0.6427	0.2754	0.0000	0.2754	0.1653	0.0000	0.1653	0.1653	0.0000	0.1653
Duct Burner 1	0.00		0.00			85,000,000		89,033		0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Duct Burner 2	732.70		16088.83			83,820,000		87,797		0.0434		0.0434	0.1046		0.1046	0.0804		0.0804	0.0047		0.0047	0.0158		0.0158	0.0158		0.0158
Boiler 2	74.10	4.00	86.94	247.01						0.0000	0.0002	0.0002	0.0044	0.0151	0.0195	0.0000	0.0027	0.0027	0.0000	0.0055	0.0055	0.0004	0.0097	0.0101	0.0004	0.0097	0.0101
Boiler 4	592.30	4.50	4457.95	262.24						0.0010	0.0002	0.0011	0.2284	0.0171	0.2455	0.0048	0.0040	0.0088	0.0013	0.0056	0.0069	0.0134	0.0091	0.0225	0.0134	0.0091	0.0225
Emerg. Gen.		0.00		0.000	1.0						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000
Mobile Boiler	643.80	4.00	4894.73	2134.00						0.0098	0.0006	0.0104	0.0881	0.0293	0.1174	0.0918	0.0055	0.0973	0.0015	0.0002	0.0017	0.0259	0.0143	0.0402	0.0259	0.0143	0.0402
Emissions Total										0.1459	0.0010	0.1469	6.3472	0.0615	6.4087	0.8197	0.0122	0.8319	0.2830	0.0113	0.2943	0.2208	0.0330	0.2538	0.2208	0.0330	0.2538

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.54	119.52	6.98	3.82	6.14	6.15
		OK	OK	OK	OK	OK	OK

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

Date: 1/2/23	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	13:41:34	12:57:55		
Recorded Test				
O2	9%	3.4%		
CO	0	8 ppm		
Eff	78.3%	82.1%		
CO2	6.7%	9.9%		
T-Stk	470°F	403°F		
T-Air	119.2°F	68.3°F		
EA	67.7%	17.2%		
CO (15)	0	3 ppm		
NO	34.7 ppm	53 ppm		
NO2	0 ppm	2.8 ppm		
NOX	34.7 ppm	56 ppm		
SO2				
NO (15)	17 ppm	18 ppm		
NOX (15)	17 ppm	19 ppm		
SO2 (15)				
K lbs/hour	20	30		

Signature: _____

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 12:57:55 PM
Date: 01/02/23

Fuel
NGAS

O2: 3.4 %
CO: 8 ppm
Eff: 82.1 %
CO2: 9.9 %
T-Stk: 403 °F
T-Air: 68.3 °F
EA: 17.2 %
CO (15): 3 ppm
NO: 53 ppm
NO2: 2.8 ppm
NOx: 56 ppm
NO (15): 18 ppm
NO2 (15): 1 ppm
NOx (15): 19 ppm
Flow: 0.77 LPM

Comments:

Boiler 4



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 01:41:34 PM
Date: 01/02/23

Fuel
NGAS

O2: 9.0 %
CO: 0 ppm
Eff: 78.3 %
CO2: 6.7 %
T-Stk: 470 °F
T-Air: 119.2 °F
EA: 67.7 %
CO (15): 0 ppm
NO: 34.7 ppm
NO2: 0.0 ppm
NOx: 34.7 ppm
NO (15): 17 ppm
NO2 (15): 0 ppm
NOx (15): 17 ppm
Flow: 0.77 LPM

Comments:

Boiler 2

Boiler: RECORD TIME PROBE IS UNDER LID (START), WAIT 15 MINUTES AND THEN RUN TEST RECORD

EMISSION TEST COLLEGE PARK ENERGY

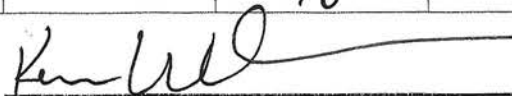
Date: 1/9/22	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1134	1124	
Recorded Test		1137	1127	
O2		14.2 %	15.9 %	
CO		3 PPM	1 PPM	
Eff		80.5 %	100 %	
CO2		3.8 %	2.8 %	
T-Stk		254 °F	69 °F	
T-Air		76.1 °F	76.1 °F	
EA		187.8 %	250 %	
CO (15)		2 PPM	1 PPM	
NO		21.7 PPM	16.8 PPM	
NO2		3.5 PPM	0 PPM	
NOX		25.1 PPM	16.8 PPM	
SO2		—	—	
NO (15)		19 PPM	20 PPM	
NOX (15)		22 PPM	20 PPM	
SO2 (15)		—	—	
Mega Watts		10	10.5	
KSCF/hour		34		

Signature:



Date: 1/9/22	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		1151		
Recorded Test		1206		
O2		5.7 %		
CO		6 PPM		
Eff		77.9 %		
CO2		8.6 %		
T-Stk		529 °F		
T-Air		83.2 °F		
EA		33.2 %		
CO (15)		0 PPM		
NO		91 PPM		
NO2		1.5 PPM		
NOX		9.3 PPM		
SO2		—		
NO (15)		35 PPM		
NOX (15)		36 PPM		
SO2 (15)		—		
K lbs/hour		48		

Signature:



Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 11:27:51 AM
Date: 01/09/23

Fuel
NGAS

O ₂	15.9 %
CO	1 ppm
Eff	100.0 %
CO ₂	2.8 %
T-Stk	69 °F
T-Air	76.1 °F
EA	250.0 %
CO(15)	1 ppm
NO	16.8 ppm
NO ₂	0.0 ppm
NO _x	16.8 ppm
NO(15)	20 ppm
NO ₂ (15)	0 ppm
NO _x (15)	20 ppm
Flow	0.80 LPM

Comments:

.10.5



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 11:37:44 AM
Date: 01/09/23

Fuel
NGAS

O ₂	14.2 %
CO	3 ppm
Eff	80.5 %
CO ₂	3.8 %
T-Stk	254 °F
T-Air	76.1 °F
EA	187.8 %
CO(15)	2 ppm
NO	21.7 ppm
NO ₂	3.5 ppm
NO _x	25.1 ppm
NO(15)	19 ppm
NO ₂ (15)	3 ppm
NO _x (15)	22 ppm
Flow	0.79 LPM

Comments:

34

GT #2
MW 10 Stack



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 12:06:04 PM
Date: 01/09/23

Fuel
NGAS

O ₂	5.7 %
CO	0 ppm
Eff	77.9 %
CO ₂	8.6 %
T-Stk	529 °F
T-Air	83.2 °F
EA	33.2 %
CO(15)	0 ppm
NO	91 ppm
NO ₂	1.5 ppm
NO _x	93 ppm
NO(15)	35 ppm
NO ₂ (15)	1 ppm
NO _x (15)	36 ppm
Flow	0.79 LPM

Comments:

BLR
4 48

BACHARACH, INC.
PCA 400
SN: 20123585

Date:	SN: 20123585
Start Test	Time: 10:43:29 AM
Recorded Test	Date: 01/16/23
O2	
CO	Fuel
Eff	NGAS
CO2	
T-Stk	O2 15.8 %
T-Air	CO 63 ppm
EA	Eff 27.1 %
CO (15)	CO2 2.9 %
NO	T-Stk 925 °F
NO2	T-Air 80.8 °F
NOX	EA 250.0 %
SO2	CO (15) 73 ppm
NO (15)	NO 22.1 ppm
NOX (15)	NO2 0.0 ppm
SO2 (15)	NOx 22.1 ppm
Mega Watts	NO (15) 26 ppm
KSCF/hour	NO2 (15) 0 ppm
	NOx (15) 26 ppm
	Flow 0.77 LPM
	Comments:

Comments:

GT 1

[illegible]

Time: 07:51:18 AM
Date: 01/16/23

Fuel
NGAS

O ₂	5.7 %
CO	0 ppm
Eff	78.8 %
CO ₂	8.6 %
T-Stk	479 °F
T-Air	65.7 °F
EA	33.5 %
CO (15)	0 ppm
NO	83 ppm
NO ₂	1.0 ppm
NO _x	84 ppm
NO (15)	32 ppm
NO ₂ (15)	0 ppm
NO _x (15)	32 ppm
Flow	0.77 LPM

Comments:

30 14ppH

Boiler 4

Date: 1/16/23	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	08:28:28	07:51:18		
Recorded Test				
O2	7.9%	5.7%		
CO	7 ppm	0 ppm		
Eff	83.8%	78.8%		
CO2	7.4%	8.6%		
T-Stk	299°F	479°F		
T-Air	84.3°F	65.7°F		
EA	53.6%	33.5%		
CO (15)	3 ppm	0 ppm		
NO	40.9 ppm	83 ppm		
NO2	7.6 ppm	1.0 ppm		
NOX	48.4 ppm	84 ppm		
SO2				
NO (15)	18 ppm	32 ppm		
NOX (15)	22 ppm	32 ppm		
SO2 (15)				
K lbs/hour	22	38		

22	38	
----	----	--

[Signature]

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:08:28 AM
Date: 01/16/23

Fuel
NGAS

O ₂	7.9 %
CO	7 ppm
Eff	83.8 %
CO ₂	7.4 %
T-Stk	299 °F
T-Air	84.3 °F
EA	53.6 %
CO (15)	3 ppm
NO	40.9 ppm
NO ₂	7.6 ppm
NO _x	48.4 ppm
NO (15)	18 ppm
NO ₂ (15)	3 ppm
NO _x (15)	22 ppm
Flow	0.77 LPM

Comments:

Boiler 2 22/4PT

CP62716

EMISSION TEST COLLEGE PARK ENERGY

Date: 1/23/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		1547		
Recorded Test		1550		
O2		14.3%		
CO		4 ppm		
Eff		80.1%		
CO2		3.7%		
T-Stk		253°F		
T-Air		70.5°F		
EA		192.7%		
CO (15)		3 ppm		
NO		21.2 ppm		
NO2		3.2 ppm		
NOX		24.4 ppm		
SO2		—		
NO (15)		19 ppm		
NOX (15)		22 ppm		
SO2 (15)		—		
Mega Watts		9.0		
KSCF/hour		48		

Signature:

Spencer Jones

Date: 1/23/23	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1517	1522		
Recorded Test	1532	1537		
O2	6.0%	6.2%		
CO	7 ppm	0 ppm		
Eff	84.3%	79.2%		
CO2	8.4%	8.3%		
T-Stk	301°F	470°F		
T-Air	78.1°F	81.6°F		
EA	35.4%	37.3%		
CO (15)	3 ppm	0 ppm		
NO	47.4 ppm	76 ppm		
NO2	2.9 ppm	1.0 ppm		
NOX	50 ppm	77 ppm		
SO2	—	—		
NO (15)	19 ppm	30 ppm		
NOX (15)	20 ppm	31 ppm		
SO2 (15)	—	—		
K lbs/hour	26	30		

Signature:

Spencer Jones

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT2DB

~~HPS~~

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 03:50:35 PM

Date: 01/23/23

Fuel
NGAS

O ₂	14.3 %
CO	4 ppm
Eff	80.1 %
CO ₂	3.7 %
T-Stk	253 °F
T-Air	70.5 °F
EA	192.7 %
CO(15)	3 ppm
NO	21.2 ppm
NO ₂	3.2 ppm
NO _x	24.4 ppm
NO(15)	19 ppm
NO ₂ (15)	3 ppm
NO _x (15)	22 ppm
Flow	0.78 LPM

Comments:

MW

9.0

89

KCFH

48

#2

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 03:32:31 PM

Date: 01/23/23

Fuel
NGAS

O ₂	6.0 %
CO	7 ppm
Eff	84.3 %
CO ₂	8.4 %
T-Stk	301 °F
T-Air	78.1 °F
EA	35.4 %
CO(15)	3 ppm
NO	47.4 ppm
NO ₂	2.9 ppm
NO _x	50 ppm
NO(15)	19 ppm
NO ₂ (15)	1 ppm
NO _x (15)	20 ppm
Flow	0.77 LPM

Comments:

KPPH KLBS 24

#4

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 03:37:37 PM

Date: 01/23/23

Fuel
NGAS

O ₂	6.2 %
CO	0 ppm
Eff	79.2 %
CO ₂	8.3 %
T-Stk	470 °F
T-Air	81.6 °F
EA	37.3 %
CO(15)	0 ppm
NO	76 ppm
NO ₂	1.0 ppm
NO _x	77 ppm
NO(15)	30 ppm
NO ₂ (15)	0 ppm
NO _x (15)	31 ppm
Flow	0.77 LPM

Comments:

KPPH

30

Boiler #2



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:30:17 AM
Date: 01/30/23

Fuel
NGAS

O₂ 8.5 %
CO 25 ppm
Eff 83.3 %
CO₂ 7.0 %
T-Stk 293 °F
T-Air 72.4 °F
EA 61.3 %
CO (15) 12 ppm
NO 34.6 ppm
NO₂ 10.1 ppm
NO_x 44.7 ppm
NO (15) 16 ppm
NO₂ (15) 5 ppm
NO_x (15) 21 ppm
Flow 0.78 LPM

SSION TEST COLLEGE PARK EN

GT 1 DB	GT 2 DB	GT1
	08:26 AM	
	08:41 AM	
	13.6 %	
	6 ppm	
	79.7 %	
	4.1 %	
	285 °F	
	78.5 °F	
	165.0 %	
	4 ppm	
	19.2 ppm	
	3.3 ppm	
	22.5 ppm	
	/	
	15 ppm	
	18 ppm	
	/	
	9.5	
	22	

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:41:20 AM
Date: 01/30/23

Fuel
NGAS

O₂ 13.6 %
CO 6 ppm
Eff 79.7 %
CO₂ 4.1 %
T-Stk 285 °F
T-Air 78.5 °F
EA 165.0 %
CO (15) 4 ppm
NO 19.2 ppm
NO₂ 3.3 ppm
NO_x 22.5 ppm
NO (15) 15 ppm
NO₂ (15) 3 ppm
NO_x (15) 18 ppm
Flow 0.79 LPM

Comments:

GT RECORD TIME PROBE IS INSERTED (Start),

WHEN FINISHED TESTING

Date:	BLR 2	BLR 4	BLR 2
Start Test	08:27 AM	08:33 AM	
Recorded Test	08:30 AM	08:35 AM	
O ₂	8.5 %	6.3 %	
CO	25 ppm	0 ppm	
Eff	83.3 %	78.7 %	
CO ₂	7.0 %	8.2 %	
T-Stk	293 °F	479 °F	
T-Air	72.4 °F	75.9 °F	
EA	61.3 %	38.7 %	
CO (15)	12 ppm	0 ppm	
NO	34.6 ppm	72 ppm	
NO ₂	10.1 ppm	1.0 ppm	
NO _x	44.7 ppm	73 ppm	
SO ₂	/	/	
NO (15)	16 ppm	29 ppm	
NO _x (15)	21 ppm	29 ppm	
SO ₂ (15)	/	/	
K lbs/hour	20	30	

Signature:

Comments:

Boiler #4
BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:35:18 AM
Date: 01/30/23

Fuel
NGAS

O₂ 6.3 %
CO 0 ppm
Eff 78.7 %
CO₂ 8.2 %
T-Stk 479 °F
T-Air 75.9 °F
EA 38.7 %
CO (15) 0 ppm
NO 72 ppm
NO₂ 1.0 ppm
NO_x 73 ppm
NO (15) 29 ppm
NO₂ (15) 0 ppm
NO_x (15) 29 ppm
Flow 0.78 LPM

EMISSION TEST COLLEGE PARK ENERGY

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Date: 02/06/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		08:07:13		
Recorded Test		08:46:13		
O2		13.6 %		
CO		2 ppm		
Eff		81.0 %		
CO2		4.1 %		
T-Stk		272 °F		
T-Air		90.4 °F		
EA		166.3 %		
CO (15)		1 ppm		
NO		17.9 ppm		
NO2		2.5 ppm		
NOX		20.4 ppm		
SO2				
NO (15)		14 ppm		
NOX (15)		17 ppm		
SO2 (15)				
Mega Watts		9.5		

145 CF/hr
Signature: Darin Buttz

48

Time: 08:07:13 AM
Date: 02/06/23

Fuel
NGAS

O2: 13.6 %
CO: 2 ppm
Eff: 81.0 %
CO2: 4.1 %
T-Stk: 272 °F
T-Air: 90.4 °F
EA: 166.3 %
CO (15): 1 ppm
NO: 17.9 ppm
NO2: 2.5 ppm
NOx: 20.4 ppm
NO (15): 14 ppm
NO2 (15): 2 ppm
NOx (15): 17 ppm
Flow: 0.78 LPM

Comments: GTDB #2

Date: 02/06/23	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		08:01:19		
Recorded Test		07:57:19		
O2		5.6 %		
CO		0 ppm		
Eff		78.7 %		
CO2		8.7 %		
T-Stk		507 °F		
T-Air		88.3 °F		
EA		32.2 %		
CO (15)		0 ppm		
NO		95 ppm		
NO2		0.0 ppm		
NOX		95 ppm		
SO2				
NO (15)		36 ppm		
NOX (15)		36 ppm		
SO2 (15)				
lbs per hour		40		

Signature: Darin Buttz

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:01:19 AM
Date: 02/06/23

Fuel
NGAS

O2: 5.6 %
CO: 0 ppm
Eff: 78.7 %
CO2: 8.7 %
T-Stk: 507 °F
T-Air: 88.3 °F
EA: 32.2 %
CO (15): 0 ppm
NO: 95 ppm
NO2: 0.0 ppm
NOx: 95 ppm
NO (15): 36 ppm
NO2 (15): 0 ppm
NOx (15): 36 ppm
Flow: 0.74 LPM

Comments: Boiler #4

CP 63326

EMISSION TEST COLLEGE PARK ENERGY

Date: 2/13/2023	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test			0939	0941
Recorded Test			0942	0944
O2			3.5%	5.6%
CO			17 PPM	0 PPM
Eff			81.7%	76.4%
CO2			9.8%	8.6%
T-Stk			419 °F	569 °F
T-Air			70.1 °F	72.1 °F
EA			18.1%	32.8%
CO (15)			6 PPM	0 PPM
NO			55 PPM	98 PPM
NO2			3.6 PPM	1.5 PPM
NOX			59 PPM	99 PPM
SO2			—	—
NO (15)			19 PPM	38 PPM
NOX (15)			20 PPM	38 PPM
SO2 (15)			—	—
K lbs/hour			74	36

Signature: _____

Kenneth Wil

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

CP 63326

f711-000

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:44:32 AM
Date: 02/13/23

Fuel
NGAS

O ₂	5.6 %
CO	0 ppm
Eff	76.4 %
CO ₂	8.6 %
T-Stk	569 °F
T-Air	72.1 °F
EA	32.8 %
CO(15)	0 ppm
NO	98 ppm
NO ₂	1.5 ppm
NO _x	99 ppm
NO(15)	38 ppm
NO ₂ (15)	1 ppm
NO _x (15)	38 ppm
Flow	0.78 LPM

Comments:

36

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:42:55 AM
Date: 02/13/23

Fuel
NGAS

O ₂	3.5 %
CO	17 ppm
Eff	81.7 %
CO ₂	9.8 %
T-Stk	419 °F
T-Air	70.1 °F
EA	18.1 %
CO(15)	6 ppm
NO	55 ppm
NO ₂	3.6 ppm
NO _x	59 ppm
NO(15)	19 ppm
NO ₂ (15)	1 ppm
NO _x (15)	20 ppm
Flow	0.77 LPM

Comments:

74

EMISSION TEST COLLEGE PARK ENERGY

Date: 2/20/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		08:25		
Recorded Test		08:36		
O2		13.4%		
CO		6ppm		
Eff		80.2%		
CO2		4.3%		
T-Stk		273°		
T-Air		71.9°		
EA		157.6%		
CO (15)		5ppm		
NO		24.8ppm		
NO2		3.9ppm		
NOX		28.7ppm		
SO2				
NO (15)		19ppm		
NOX (15)		22ppm		
SO2 (15)				
Mega Watts		9.5		
KSCF/hour				

Signature: _____

Date: 2/20/23	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				08:44
Recorded Test				08:59
O2				6.3%
CO				0ppm
Eff				78.9%
CO2				8.2%
T-Stk				472°
T-Air				75.5°
EA				38.7%
CO (15)				0ppm
NO				71ppm
NO2				0.0ppm
NOX				71ppm
SO2				
NO (15)				29ppm
NOX (15)				29ppm
SO2 (15)				
K lbs/hour				29.9

Signature: M. Jackson

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:36:02 AM
Date: 02/20/23

Fuel
NGAS

O ₂	13.4 %
CO	6 ppm
Eff	80.2 %
CO ₂	4.3 %
T-Stk	273 °F
T-Air	71.9 °F
EA	157.6 %
CO(15)	5 ppm
NO	24.8 ppm
NO ₂	3.9 ppm
NOx	28.7 ppm
NO(15)	19 ppm
NO ₂ (15)	3 ppm
NOx(15)	22 ppm
Flow	0.78 LPM

Comments:

GT #2
w/DB



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:59:53 AM
Date: 02/20/23

Fuel
NGAS

O ₂	6.3 %
CO	0 ppm
Eff	78.9 %
CO ₂	8.2 %
T-Stk	472 °F
T-Air	75.5 °F
EA	38.7 %
CO(15)	0 ppm
NO	71 ppm
NO ₂	0.0 ppm
NOx	71 ppm
NO(15)	29 ppm
NO ₂ (15)	0 ppm
NOx(15)	29 ppm
Flow	0.76 LPM

Comments:

#4 Boiler

EMISSION TEST COLLEGE PARK ENERGY

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

Date: 2/27/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		8:46 AM		
Recorded Test				
O2		7.6%		
CO		7 PPM		
Eff		83.5%		
CO2		7.5%		
T-Stk		300°F		
T-Air		74.5°F		
EA		51.1%		
CO (15)		3 PPM		
NO		45.1 PPM		
NO2		7.0 PPM		
NOX		52 PPM		
SO2				
NO (15)		20 PPM		
NOX (15)		23 PPM		
SO2 (15)				
Mega Watts		9.6 MW		
KSCF/hour				

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		9:04 AM	9:14 AM	
Recorded Test				
O2		5.5%	14.8%	
CO		0 PPM	3 PPM	
Eff		78.4%	76.6%	
CO2		8.7%	3.4%	
T-Stk		531°F	311°F	
T-Air		101.0°F	87.4°F	
EA		31.5%	216.3%	
CO (15)		0 PPM	3 PPM	
NO		86 PPM	19 PPM	
NO2		1.1 PPM	4.5 PPM	
NOX		87 PPM	23.5 PPM	
SO2				
NO (15)		33 PPM	18 PPM	
NOX (15)		33 PPM	23 PPM	
SO2 (15)				
K lbs/hour		34 KPPH	20 KPPH	

Signature: _____



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:14:13 AM
Date: 02/27/23

Fuel
NGAS

O ₂	14.8 %
CO	3 ppm
Eff	76.6 %
CO ₂	3.4 %
T-Stk	311 °F
T-Air	87.4 °F
EA	216.3 %
CO(15)	3 ppm
NO	19.0 ppm
NO ₂	4.5 ppm
NO _x	23.5 ppm
NO(15)	18 ppm
NO ₂ (15)	4 ppm
NO _x (15)	23 ppm
Flow	0.80 LPM

Comments:

BLR 2 20KPPH



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:46:13 AM
Date: 02/27/23

Fuel
NGAS

O ₂	7.6 %
CO	7 ppm
Eff	83.5 %
CO ₂	7.5 %
T-Stk	300 °F
T-Air	74.5 °F
EA	51.1 %
CO(15)	3 ppm
NO	45.1 ppm
NO ₂	7.0 ppm
NO _x	52 ppm
NO(15)	20 ppm
NO ₂ (15)	3 ppm
NO _x (15)	23 ppm
Flow	0.79 LPM

Comments:

ET #2 9.6 MW



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:04:57 AM
Date: 02/27/23

Fuel
NGAS

O ₂	5.5 %
CO	0 ppm
Eff	78.4 %
CO ₂	8.7 %
T-Stk	531 °F
T-Air	101.0 °F
EA	31.5 %
CO(15)	0 ppm
NO	86 ppm
NO ₂	1.1 ppm
NO _x	87 ppm
NO(15)	33 ppm
NO ₂ (15)	0 ppm
NO _x (15)	33 ppm
Flow	0.77 LPM

Comments:

BLR # 4
34KPPH

EMISSION TEST COLLEGE PARK ENERGY

Date:	3/6/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			07:35		
Recorded Test			07:50		
O2			14%		
CO			4 ppm		
Eff			78.4%		
CO2			39%		
T-Stk			290°F		
T-Air			73.2°F		
EA			182.5%		
CO (15)			3 ppm		
NO			22.9 ppm		
NO2			3.6 ppm		
NOX			26.5 ppm		
SO2					
NO (15)			20 ppm		
NOX (15)			23 ppm		
SO2 (15)					
Mega Watts					
KSCF/hour					

Signature: _____

Date:	3/6/23	BLR 2	Mobile BLR BLR 1	BLR 2	BLR 4
Start Test					07:15
Recorded Test			08:05		07:27
O2			6.8%		5.8%
CO			0 ppm		0 ppm
Eff			80.2%		77.7%
CO2			7.9%		8.5%
T-Stk			415°F		531°F
T-Air			71.6°F		83.9°F
EA			43.3%		34.1%
CO (15)			0 ppm		0 ppm
NO			31.6 ppm		79 ppm
NO2			0 ppm		0 ppm
NOX			31.6 ppm		79 ppm
SO2					
NO (15)			13 ppm		31 ppm
NOX (15)			13 ppm		31 ppm
SO2 (15)					
K lbs/hour					

Signature: _____

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

0864122

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test		18.10
Recorded Test		1015
O2		14.0%
CO		4 ppm
Eff		77.9%
CO2		3.9%
T-Stk		245°F
T-Air		69.8°F
EA		181.9%
CO (15)		4 ppm
NO		21.6 ppm
NO2		4.4 ppm
NOX		26.0 ppm
SO2		XX
NO (15)		19 ppm
NOX (15)		22 ppm
SO2 (15)		XX
Mega Watts		10.0
KSCF/hour		

Signature:

Date:	Mobile BLR 2	BLR 4
Start Test	0946	0904
Recorded Test	0902	0920
O2	8.1%	5.5%
CO	1 ppm	0.1 ppm
Eff	80.1%	77.8%
CO2	7.3%	8.7%
T-Stk	393°F	542°F
T-Air	69.9°F	92.6°F
EA	55.8%	32.1%
CO (15)	0 ppm	0
NO	28.5 ppm	85
NO2	0 ppm	1.2
NOX	28.5 ppm	86
SO2	XX	XX
NO (15)	13 ppm	33
NOX (15)	13 ppm	33
SO2 (15)	XX	XX
K lbs/hour	15K	41K

Signature:

BACHARACH

GT2

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 10:15:16 AM

Date: 03/13/23

Fuel
NGAS

O2	14.0 %
CO	4 ppm
Eff	77.9 %
CO2	3.9 %
T-Stk	295 °F
T-Air	69.8 °F
EA	181.9 %
CO (15)	4 ppm
NO	21.6 ppm
NO2	4.4 ppm
NOx	26.0 ppm
NO (15)	19 ppm
NO2 (15)	4 ppm
NOx (15)	22 ppm
Flow	0.77 LPM

Comments:

Boiler: RECORD TIME PROBE IS INSERTED (Start), WA

GT: RECORD TIME PROBE IS INSERTED (Start), WA

WHEN FINISHED TESTING AT

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 09:02:12 AM

Date: 03/13/23

Fuel
NGAS

O2	8.1 %
CO	1 ppm
Eff	80.1 %
CO2	7.3 %
T-Stk	393 °F
T-Air	69.9 °F
EA	55.8 %
CO (15)	0 ppm
NO	28.5 ppm
NO2	0.0 ppm
NOx	28.5 ppm
NO (15)	13 ppm
NO2 (15)	0 ppm
NOx (15)	13 ppm
Flow	0.78 LPM

Comments:

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 09:20:46 AM

Date: 03/13/23

Fuel
NGAS

O2	5.5 %
CO	0 ppm
Eff	77.8 %
CO2	8.7 %
T-Stk	542 °F
T-Air	92.6 °F
EA	32.1 %
CO (15)	0 ppm
NO	85 ppm
NO2	1.2 ppm
NOx	86 ppm
NO (15)	33 ppm
NO2 (15)	0 ppm
NOx (15)	33 ppm
Flow	0.76 LPM

Comments:

CP 64390

EMISSION TEST COLLEGE PARK ENERGY

Date: 3/20/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		0835		
Recorded Test	0838	0838		
O2		14.6 %		
CO		7 PPM		
Eff		76.3 %		
CO2		3.5 %		
T-Stk		296 °F		
T-Air		61.3 °F		
EA		207 %		
CO (15)		7 PPM		
NO		19 PPM		
NO2		5.1 PPM		
NOX		24.1 PPM		
SO2		—		
NO (15)		18 PPM		
NOX (15)		23 PPM		
SO2 (15)		—		
Mega Watts		10.5		
KSCF/hour		47		

Signature:

Ken Williams

MOBILE

Date: 3/20/23	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	0850	0841		
Recorded Test	0854	0846		
O2	7.4 %	5.9 %		
CO	1 PPM	0 PPM		
Eff	79.5 %	77.2 %		
CO2	7.6 %	8.5 %		
T-Stk	416 °F	524 °F		
T-Air	64 °F	60.1 °F		
EA	48.8 %	34.7 %		
CO (15)	0 PPM	0 PPM		
NO	28.7 PPM	93 PPM		
NO2	1.1 PPM	1.6 PPM		
NOX	29.8 PPM	94 PPM		
SO2	—	—		
NO (15)	13 PPM	36 PPM		
NOX (15)	13 PPM	37 PPM		
SO2 (15)	—	—		
K lbs/hour	30	36		

Signature:

Ken Will

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GF2 DB



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:38:43 AM
Date: 03/20/23

Fuel
NGAS

O ₂	14.6 %
CO	7 ppm
Eff	76.3 %
CO ₂	3.5 %
T-Stk	296 °F
T-Air	61.3 °F
EA	207.0 %
CO (15)	7 ppm
NO	19.0 ppm
NO ₂	5.1 ppm
NO _x	24.1 ppm
NO (15)	18 ppm
NO ₂ (15)	5 ppm
NO _x (15)	23 ppm
Flow	0.80 LPM

Comments:

mw - 10.5

KSLF - 47



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:46:18 AM
Date: 03/20/23

Fuel
NGAS

O ₂	5.9 %
CO	0 ppm
Eff	77.2 %
CO ₂	8.5 %
T-Stk	524 °F
T-Air	60.1 °F
EA	34.7 %
CO (15)	0 ppm
NO	93 ppm
NO ₂	1.6 ppm
NO _x	94 ppm
NO (15)	36 ppm
NO ₂ (15)	1 ppm
NO _x (15)	37 ppm
Flow	0.80 LPM

Comments:

14165-36

MOBILE
BAGNABACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:54:56 AM
Date: 03/20/23

Fuel
NGAS

O ₂	7.4 %
CO	1 ppm
Eff	79.5 %
CO ₂	7.6 %
T-Stk	416 °F
T-Air	64.0 °F
EA	48.8 %
CO (15)	0 ppm
NO	28.7 ppm
NO ₂	1.1 ppm
NO _x	29.8 ppm
NO (15)	13 ppm
NO ₂ (15)	0 ppm
NO _x (15)	13 ppm
Flow	0.80 LPM

Comments:

115-30

EMISSION TEST COLLEGE PARK ENERGY



BACHARACH, INC.
PCA 400
SN: 20123585

Date:	3/27/23	GT:1 DB	GT 2 DB	GT1	GT2
Start Test					
Recorded Test				11:35	11:35
O2					13.6 %
CO					4 ppm
Eff					79.7 %
CO2					4.1 %
T-Stk					276 °F
T-Air					70.4 °F
EA					165.4 %
CO (15)					3 ppm
NO					23.1 ppm
NO2					3.6 ppm
NOX					26.6 ppm
SO2					
NO (15)					19 ppm
NOX (15)					21 ppm
SO2 (15)					
Mega Watts			9.5		
KSCF/hour			9.552		

Time: 11:35:23 AM
Date: 03/27/23

Fuel
NGAS

O2	13.6 %
CO	4 ppm
Eff	79.7 %
CO2	4.1 %
T-Stk	276 °F
T-Air	70.4 °F
EA	165.4 %
CO (15)	3 ppm
NO	23.1 ppm
NO2	3.6 ppm
NOx	26.6 ppm
NO (15)	19 ppm
NO2 (15)	3 ppm
NOx (15)	21 ppm
Flow	0.79 LPM

Signature: _____

Comments:

GT #2
w/DB

Date:	BLR 2	BLR 4	Mobile BLR 2	BLR 4
Start Test				
Recorded Test			11:52	
O2			7.5 %	
CO			0 ppm	
Eff			80.5 %	
CO2			7.6 %	
T-Stk			399 °F	
T-Air			76.1 °F	
EA			49.4 %	
CO (15)			0 ppm	
NO			26.6 ppm	
NO2			0.0 ppm	
NOX			26.6 ppm	
SO2				
NO (15)			12 ppm	
NOX (15)			12 ppm	
SO2 (15)				
K lbs/hour			20	

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 11:52:58 AM
Date: 03/27/23

Fuel
NGAS

O2	7.5 %
CO	0 ppm
Eff	80.5 %
CO2	7.6 %
T-Stk	399 °F
T-Air	76.1 °F
EA	49.4 %
CO (15)	0 ppm
NO	26.6 ppm
NO2	0.0 ppm
NOx	26.6 ppm
NO (15)	12 ppm
NO2 (15)	0 ppm
NOx (15)	12 ppm
Flow	0.79 LPM

Signature: _____

N. Jackson

Comments:

Mobile BLR



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

July 6, 2023

Dakota Blum
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Mr. Blum:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of April 1, 2023, through June 30, 2023.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Mark Alexander, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
						scf/12-months	gal/12-months	mmbtu/12-months		tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	689.30	0.00	85691.88	0.00		541,130,000	0	566,807	0	0.0428	0.0000	0.0428	5.1844	0.0000	5.1844	0.1285	0.0000	0.1285	0.2571	0.0000	0.2571	0.2099	0.0000	0.2099	0.2099	0.0000	0.2099
Turbine 2	610.50	0.00	55671.97	0.00		627,290,000	0	657,055	0	0.0557	0.0000	0.0557	3.5908	0.0000	3.5908	0.3897	0.0000	0.3897	0.1670	0.0000	0.1670	0.1002	0.0000	0.1002	0.1002	0.0000	0.1002
Duct Burner 1	510.10		9741.29			64,370,000		67,424		0.0263		0.0263	0.0633		0.0633	0.0487		0.0487	0.0029		0.0029	0.0096		0.0096	0.0096		0.0096
Duct Burner 2	101.70		2011.10			85,470,000		89,526		0.0054		0.0054	0.0131		0.0131	0.0101		0.0101	0.0006		0.0006	0.0020		0.0020	0.0020		0.0020
Boiler 2	73.80	5.20	52372.50	537.11						0.0062	0.0004	0.0066	2.6618	0.0328	2.6945	0.0145	0.0059	0.0204	0.0154	0.0119	0.0273	0.2351	0.0210	0.2561	0.2351	0.0210	0.2561
Boiler 4	102.00	7.70	3404.21	178.67						0.0007	0.0001	0.0008	0.1744	0.0117	0.1861	0.0037	0.0027	0.0064	0.0010	0.0038	0.0048	0.0103	0.0062	0.0164	0.0103	0.0062	0.0164
Emerg. Gen.		0.50		6.587	2.0						0.0003	0.0003		0.0105	0.0105		0.0028	0.0028		0.0000	0.0000		0.0002	0.0002		0.0002	0.0002
Mobile Boiler	0.40	0.00	10.47	0.00						0.0000	0.0000	0.0000	0.0002	0.0000	0.0002	0.0002	0.0000	0.0002	0.0000	0.0000	0.0000	0.0001	0.0000	0.0001	0.0001	0.0000	0.0001
Emissions Total										0.1372	0.0008	0.1380	11.6880	0.0550	11.7429	0.5953	0.0114	0.6068	0.4440	0.0157	0.4597	0.5671	0.0274	0.5945	0.5671	0.0274	0.5946

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.57	125.17	7.45	4.12	6.39	6.39
		OK	OK	OK	OK	OK	OK

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	704.30	0.00	69225.97	0.00		523,540,000	0	548,382	0	0.0346	0.0000	0.0346	4.1882	0.0000	4.1882	0.1038	0.0000	0.1038	0.2077	0.0000	0.2077	0.1696	0.0000	0.1696	0.1696	0.0000	0.1696
Turbine 2	316.30	0.00	36702.65	0.00		576,100,000	0	603,436	0	0.0367	0.0000	0.0367	2.3673	0.0000	2.3673	0.2569	0.0000	0.2569	0.1101	0.0000	0.1101	0.0661	0.0000	0.0661	0.0661	0.0000	0.0661
Duct Burner 1	537.10		16979.16			68,300,000		71,541		0.0458		0.0458	0.1104		0.1104	0.0849		0.0849	0.0050		0.0050	0.0167		0.0167	0.0167		0.0167
Duct Burner 2	0.00		0.00			84,510,000		88,520		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000			0.0000		0.0000	
Boiler 2	405.80	4.30	1790.09	421.29						0.0002	0.0003	0.0005	0.0910	0.0257	0.1167	0.0005	0.0046	0.0051	0.0005	0.0093	0.0098	0.0080	0.0165	0.0245	0.0080	0.0165	0.0245
Boiler 4	0.00	0.00	612.76	0.00						0.0001	0.0000	0.0001	0.0314	0.0000	0.0314	0.0007	0.0000	0.0007	0.0002	0.0000	0.0002	0.0018	0.0000	0.0018	0.0018	0.0000	0.0018
Emerg. Gen.		0.00		0.000	2.0						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000
Mobile Boiler	14.40	0.00	173.88	0.00						0.0003	0.0000	0.0003	0.0031	0.0000	0.0031	0.0033	0.0000	0.0033	0.0001	0.0000	0.0001	0.0009	0.0000	0.0009	0.0009	0.0000	0.0009
Emissions Total										0.1178	0.0003	0.1181	6.7914	0.0257	6.8171	0.4501	0.0046	0.4547	0.3235	0.0093	0.3328	0.2631	0.0165	0.2796	0.2631	0.0165	0.2796

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.52	120.57	7.07	3.92	6.26	6.26
		OK	OK	OK	OK	OK	OK

EMISSION TEST COLLEGE PARK ENERGY

Date: 04/03/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		06:51:05AM		
Recorded Test		06:57:05AM		
O2		14.0%		
CO		3ppm		
Eff		74.7%		
CO2		3.9%		
T-Stk		365 °F		
T-Air		80.4 °F		
EA		179.5 %		
CO (15)		3ppm		
NO		22.7ppm		
NO2		3.5ppm		
NOX		26.3ppm		
SO2		-		
NO (15)		19ppm		
NOX (15)		22ppm		
SO2 (15)		-		
Mega Watts		10.0		
KSCF/hour		44		

Signature: _____

MOBILE

Date: 04/03/23	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	07:45:51AM	06:20:08AM		
Recorded Test	08:07:51AM	06:36:08AM		
O2	8.1%	5.9%		
CO	0ppm	0ppm		
Eff	80.3%	78.1%		
CO2	7.2%	8.5%		
T-Stk	397 °F	515 °F		
T-Air	82.6 °F	81.9 °F		
EA	56.1%	34.8%		
CO (15)	0 ppm	0 ppm		
NO	27.5 ppm	78 ppm		
NO2	0.0 ppm	0.0 ppm		
NOX	27.5 ppm	78 ppm		
SO2	-	-		
NO (15)	13 ppm	31 ppm		
NOX (15)	13 ppm	31 ppm		
SO2 (15)	-	-		
K lbs/hour	23 %	25 KPPH		

Signature: _____

[Handwritten Signature]

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

413123

4
#Boner**BACHARACH**BACHARACH, INC.
PCA 400
SN: 20123585Time: 06:36:08 AM
Date: 04/03/23Fuel
NGAS

O ₂	5.9 %
CO	0 ppm
Eff	78.1 %
CO ₂	8.5 %
T-Stk	515 °F
T-Air	81.9 °F
EA	34.8 %
CO(15)	0 ppm
NO	78 ppm
NO ₂	0.0 ppm
NO _x	78 ppm
NO(15)	31 ppm
NO ₂ (15)	0 ppm
NO _x (15)	31 ppm
Flow	0.78 LPM

Mobile Boiler

BACHARACHBACHARACH, INC.
PCA 400
SN: 20123585Time: 08:07:51 AM
Date: 04/03/23Fuel
NGAS

O ₂	8.1 %
CO	0 ppm
Eff	80.3 %
CO ₂	7.2 %
T-Stk	397 °F
T-Air	82.6 °F
EA	56.1 %
CO(15)	0 ppm
NO	27.5 ppm
NO ₂	0.0 ppm
NO _x	27.5 ppm
NO(15)	13 ppm
NO ₂ (15)	0 ppm
NO _x (15)	13 ppm
Flow	0.80 LPM

Comments:

GT #2

BACHARACHBACHARACH, INC.
PCA 400
SN: 20123585Time: 06:57:05 AM
Date: 04/03/23Fuel
NGAS

O ₂	14.0 %
CO	3 ppm
Eff	74.7 %
CO ₂	3.9 %
T-Stk	365 °F
T-Air	80.4 °F
EA	179.5 %
CO(15)	3 ppm
NO	22.7 ppm
NO ₂	3.5 ppm
NO _x	26.3 ppm
NO(15)	19 ppm
NO ₂ (15)	3 ppm
NO _x (15)	22 ppm
Flow	0.79 LPM

Comments:

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

EMISSION TEST COLLEGE PARK ENERGY

Date: 4/10/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test		0931	0926	
Recorded Test		0934	0929	
O2		15.9 %	15.9 %	
CO		0 PPM	0 PPM	
Eff		94.1 %	99.7 %	
CO2		2.8 %	2.8 %	
T-Stk		87 °F	64 °F	
T-Air		74.6 °F	64.7 °F	
EA		250 %	250 %	
CO (15)		0 PPM	0 PPM	
NO		13.2 PPM	13.4 PPM	
NO2		4.1 PPM	2.0 PPM	
NOX		17.2 PPM	15.5 PPM	
SO2		—	—	
NO (15)		15 PPM	16 PPM	
NOX (15)		20 PPM	18 PPM	
SO2 (15)		—	—	
Mega Watts		9.5	10.5	
KSCF/hour		47		

Signature:

Ken Will

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

Date: 4/10/23	BLR 2	BLR 4	BLR 2	BLR 4
Start Test		0937		
Recorded Test		0940		
O2		8.8 %		
CO		0 PPM		
Eff		76.4 %		
CO2		6.8 %		
T-Stk		491 °F		
T-Air		78.3 °F		
EA		64.4 %		
CO (15)		0 PPM		
NO		45.4 PPM		
NO2		0 PPM		
NOX		45.4 PPM		
SO2		—		
NO (15)		22 PPM		
NOX (15)		22 PPM		
SO2 (15)		—		
K lbs/hour		2.6		

Signature:

Ken Will

GTI
BACHARACH, INC.
PCA 400
SN: 18041087

Time: 09:29:08
Date: 04/10/23

Fuel
NGAS

O ₂	15.9 %
CO	0 ppm
Eff	99.7 %
CO ₂	2.8 %
T-Stk	64 °F
T-Air	64.7 °F
EA	250.0 %
CO(O)	0 ppm
NO	13.4 ppm
NO ₂	2.0 ppm
NO _x	15.5 ppm
NO(15)	16 ppm
NO ₂ (15)	2 ppm
NO _x (15)	18 ppm
Flow	0.81 LPM

Comments:

10.5

GT2DB
BACHARACH, INC.
PCA 400
SN: 18041087

Time: 09:34:54
Date: 04/10/23

Fuel
NGAS

O ₂	15.9 %
CO	0 ppm
Eff	94.1 %
CO ₂	2.8 %
T-Stk	87 °F
T-Air	71.6 °F
EA	250.0 %
CO(O)	0 ppm
NO	13.2 ppm
NO ₂	4.1 ppm
NO _x	17.2 ppm
NO(15)	15 ppm
NO ₂ (15)	5 ppm
NO _x (15)	20 ppm
Flow	0.81 LPM

Comments:

MW - 9.5
K - 47

CP64896
BLR4
BACHARACH
BACHARACH, INC.
PCA 400
SN: 18041087

Time: 09:40:09
Date: 04/10/23

Fuel
NGAS

O ₂	8.8 %
CO	0 ppm
Eff	76.4 %
CO ₂	6.8 %
T-Stk	491 °F
T-Air	78.3 °F
EA	64.4 %
CO(O)	0 ppm
NO	45.4 ppm
NO ₂	0.0 ppm
NO _x	45.4 ppm
NO(15)	22 ppm
NO ₂ (15)	0 ppm
NO _x (15)	22 ppm
Flow	0.79 LPM

Comments:

26

EMISSION TEST COLLEGE PARK ENERGY



BACHARACH, INC.
PCA 400
SN: 18041087

GT9

Time: 14:21:35
Date: 04/17/23

Fuel
NGAS

O ₂ :	15.9 %
CO	0 ppm
Eff	99.8 %
CO ₂	2.8 %
T-Stk	73 °F
T-Air	72.5 °F
EA	250.0 %
CO (0)	0 ppm
NO	13.6 ppm
NO ₂	2.5 ppm
NO _x	16.1 ppm
NO (15)	16 ppm
NO ₂ (15)	3 ppm
NO _x (15)	19 ppm
Flow	0.80 LPM

Date: 4/17/2023	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test			14.21	
O2			15.9%	
CO			0 ppm	
Eff			99.8%	
CO2			2.8%	
T-Stk			73 °F	
T-Air			72.5 °F	
EA			250.0%	
CO (15)			0	
NO			13.6 ppm	
NO2			2.5 ppm	
NOX			16.1 ppm	
SO2			—	
NO (15)			16 ppm	
NOX (15)			19 ppm	
SO2 (15)			—	
Mega Watts			10 MW	
KSCF/hour				

Signature: _____

Comments: 10 MW

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

THIS SHEET

AND THEN PRINT TEST RESULTS

AND THEN PRINT TEST RESULTS

CP65289

EMISSION TEST COLL

Date:	GT 1 DB	GT 2 D
Start Test	1538	
Recorded Test	1545	
O2	13.5%	
CO	1 ppm	
Eff	79.8%	
CO2	4.2%	
T-Stk	294°F	
T-Air	86.2°F	
EA	162.1%	
CO (15)	1 ppm	
NO	18.9 ppm	
NO2	3.3 ppm	
NOX	22.2 ppm	
SO2	XX	
NO (15)	15 ppm	
NOX (15)	18 ppm	
SO2 (15)	XX	
Mega Watts	9.8 MW	
KSCF/hour	46 KSCF	

Signature: *[Signature]*

Date:	BLR 2	BLR
Start Test	1520	
Recorded Test	1536	
O2	11.1%	
CO	0 ppm	
Eff	76.1%	
CO2	5.5%	
T-Stk	441°F	
T-Air	89.6°F	
EA	101.2%	
CO (15)	0 ppm	
NO	61 ppm	
NO2	2.8 ppm	
NOX	64 ppm	
SO2	XX	
NO (15)	37 ppm	
NOX (15)	39 ppm	
SO2 (15)	XX	
K lbs/hour	19 Kpph	

Signature: *[Signature]*

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:45:15 PM
Date: 04/24/23

Fuel
NGAS

O2 13.5 %
CO 1 ppm
Eff 79.8 %
CO2 4.2 %
T-Stk 294 °F
T-Air 86.2 °F
EA 162.1 %
CO (15) 1 ppm
NO 18.9 ppm
NO2 3.3 ppm
NOx 22.2 ppm
NO (15) 15 ppm
NO2 (15) 3 ppm
NOx (15) 18 ppm
Flow 0.79 LPM

Comments:

9.8 MW 46 KSCF

Boiler: RECORD TIME PROBE IS INSERTED (Start)

GT: RECORD TIME PROBE IS INSERTED (Start), W

WHEN FINISHED TESTING A

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 02:36:19 PM
Date: 04/24/23

Fuel
NGAS

O2 11.1 %
CO 0 ppm
Eff 76.1 %
CO2 5.5 %
T-Stk 441 °F
T-Air 89.6 °F
EA 101.2 %
CO (15) 0 ppm
NO 61 ppm
NO2 2.8 ppm
NOx 64 ppm
NO (15) 37 ppm
NO2 (15) 2 ppm
NOx (15) 39 ppm
Flow 0.78 LPM

Comments:

19 Kpph

CP 65419

EMISSION TEST COLLEGE PARK ENERGY

Date: 5/1/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1456			
Recorded Test	1459			
O2	13.1 %			
CO	3 ppm			
Eff	80.9 %			
CO2	4.4 %			
T-Stk	272 °F			
T-Air	77.9 °F			
EA	150.7 %			
CO (15)	3 ppm			
NO	23.6 ppm			
NO2	3.3 ppm			
NOX	26.9 ppm			
SO2	—			
NO (15)	18 ppm			
NOX (15)	20 ppm			
SO2 (15)	—			
Mega Watts	9.7			
KSCF/hour	51			

GT 2 DB
BACHARACHBACHARACH, INC.
PCA 400
SN: 20123585Time: 02:59:22 PM
Date: 01/05/23Fuel
NGAS

O ₂	13.1 %
CO	3 ppm
Eff	80.9 %
CO ₂	4.4 %
T-Stk	272 °F
T-Air	77.9 °F
EA	150.7 %
CO (15)	3 ppm
NO	23.6 ppm
NO ₂	3.3 ppm
NO _x	26.9 ppm
NO (15)	18 ppm
NO ₂ (15)	2 ppm
NO _x (15)	20 ppm
Flow	0.78 LPM

BLR 4
BACHARACHBACHARACH, INC.
PCA 400
SN: 20123585Time: 02:54:34 PM
Date: 01/05/23Fuel
NGAS

O ₂	5.9 %
CO	0 ppm
Eff	77.8 %
CO ₂	8.5 %
T-Stk	519 °F
T-Air	76.3 °F
EA	35.1 %
CO (15)	0 ppm
NO	81 ppm
NO ₂	0.0 ppm
NO _x	81 ppm
NO (15)	32 ppm
NO ₂ (15)	0 ppm
NO _x (15)	32 ppm
Flow	0.78 LPM

Signature:

Ken Will

Date: 5/1/23	BLR 2	BLR 4
Start Test		1429
Recorded Test		1454
O2		5.9 %
CO		0 ppm
Eff		77.8 %
CO2		8.5 %
T-Stk		519 °F
T-Air		76.3 °F
EA		35.1 %
CO (15)		0 ppm
NO		81 ppm
NO2		0 ppm
NOX		81 ppm
SO2		—
NO (15)		32 ppm
NOX (15)		32 ppm
SO2 (15)		—
K lbs/hour		43

Comments:

MW 9.7
KSCF 51

Comments:

KSCF - 43

HEN PRINT TEST RESULTS

EN PRINT TEST RESULTS

EFT

Signature:

Ken Will

5/8/23

EMISSION TEST COLLEGE

BACHARACH

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585BACHARACH, INC.
PCA 400
SN: 20123585Time: 07:46:12 AM
Date: 08/05/23Time: 07:40:34 AM
Date: 08/05/23Fuel
NGASFuel
NGAS

O ₂	15.6 %
CO	10 ppm
Eff	71.7 %
CO ₂	3.0 %
T-Stk	340 °F
T-Air	76.6 °F
EA	250.0 %
CO (15)	11 ppm
NO	9.8 ppm
NO ₂	4.8 ppm
NO _x	14.7 ppm
NO (15)	11 ppm
NO ₂ (15)	5 ppm
NO _x (15)	16 ppm
Flow	0.79 LPM

O ₂	14.5 %
CO	3 ppm
Eff	80.7 %
CO ₂	3.6 %
T-Stk	240 °F
T-Air	74.2 °F
EA	202.6 %
CO (15)	3 ppm
NO	17.0 ppm
NO ₂	2.6 ppm
NO _x	19.6 ppm
NO (15)	16 ppm
NO ₂ (15)	2 ppm
NO _x (15)	18 ppm
Flow	0.79 LPM

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

Comments:

Comments:

GT HESG #1

HESG #2 GT2

FES AND THEN PRINT TEST RESULTS

TO THIS SHEET

Date:	GT 1 DB	GT 2 DB
Start Test	7:46:12	7:40:34
Recorded Test	7:50 AM	7:45 AM
O ₂	15.6	14.5
CO	10	3
Eff	71.7	80.7
CO ₂	3.0	3.6
T-Stk	340	240
T-Air	76.6	74.2
EA	250	202
CO (15)	11 7.5	3
NO	9.8	17
NO ₂	4.8	2.6
NO _x	14.7	19.6
SO ₂		
NO (15)	11	10
NO _x (15)	16	18
SO ₂ (15)		
Mega Watts	94	8.5
KSCF/hour	11	23.0

Signature:

D. Green

Date:	BLR 2	BLR 4
Start Test		
Recorded Test		
O ₂		
CO		
Eff		
CO ₂		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO ₂		
NO _x		
SO ₂		
NO (15)		
NO _x (15)		
SO ₂ (15)		
K lbs/hour		

Signature:

5/22/23

CP66261

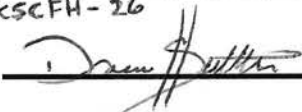
EMISSION TEST COLLEGE PARK ENERGY

Date: 5/22/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	0900			0910
Recorded Test	09:03 AM			0913
O2	14.3%			15.8%
CO	2ppm			0ppm
Eff	73.7%			69.0%
CO2	3.7%			2.9%
T-Stk	374°F			376°F
T-Air	84.1°F			87.5°F
EA	191.8%			250.0%
CO (15)	2ppm			0ppm
NO	14.2ppm			14.8ppm
NO2	2.8ppm			3.3ppm
NOX	17.1ppm			18.0ppm
SO2				
NO (15)	13ppm			17ppm
NOX (15)	15ppm			21ppm
SO2 (15)				
Mega Watts	9.4			8.8

KSCFH-26

KSCFH-0

Signature:



Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
lbs per hour				

Signature:



WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

HK519 51 1

Duct Burner



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:03:17 AM
Date: 22/05/23

Fuel
NGAS

O ₂	14.3 %
CO	2 ppm
Eff	73.7 %
CO ₂	3.7 %
T-Stk	374 °F
T-Air	84.1 °F
EA	191.8 %
CO (15)	2 ppm
NO	14.2 ppm
NO ₂	2.8 ppm
NO _x	17.1 ppm
NO (15)	13 ppm
NO ₂ (15)	3 ppm
NO _x (15)	15 ppm
Flow	0.78 LPM

Comments:
MW 9.24
KSCFH-26



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:13:12 AM
Date: 22/05/23

Fuel
NGAS

O ₂	15.8 %
CO	0 ppm
Eff	69.0 %
CO ₂	2.9 %
T-Stk	376 °F
T-Air	87.5 °F
EA	250.0 %
CO (15)	0 ppm
NO	14.8 ppm
NO ₂	3.3 ppm
NO _x	18.0 ppm
NO (15)	17 ppm
NO ₂ (15)	4 ppm
NO _x (15)	21 ppm
Flow	0.79 LPM

Comments:
MW-8.8
KSCFH-0

CP66261

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	09:11:30 AM			08:33:05 AM
Recorded Test	09:16:36 AM			08:39:05 AM
O2	15.3%			15.9%
CO	9 ppm			0 ppm
Eff	75.4%			72.6%
CO2	3.2%			2.8%
T-Stk	310°F			325°F
T-Air	83.5°F			83.7°F
EA	240.3%			250.0%
CO (15)	10 ppm			0 ppm
NO	9.5 ppm			14.6 ppm
NO2	5.7 ppm			3.8 ppm
NOX	15.2 ppm			18.3 ppm
SO2				
NO (15)	10 ppm			17 ppm
NOX (15)	16 ppm			21 ppm
SO2 (15)				
Mega Watts	9.5			8.7
KSCF/hour	12			

Signature: _____

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
K lbs/hour				

Signature: _____

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

DB
GT 1 ~~duchman~~
BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:16:36 AM
Date: 29/05/23

Fuel
NGAS

O ₂	15.3 %
CO	9 ppm
Eff	75.4 %
CO ₂	3.2 %
T-Stk	310 °F
T-Air	83.5 °F
EA	240.3 %
CO(15)	10 ppm
NO	9.5 ppm
NO ₂	5.7 ppm
NO _x	15.2 ppm
NO(15)	10 ppm
NO ₂ (15)	6 ppm
NO _x (15)	16 ppm
Flow	0.79 LPM

Comments:

MW-9.5

gas-12

steam-64k

GT 2
BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:39:05 AM
Date: 29/05/23

Fuel
NGAS

O ₂	15.9 %
CO	0 ppm
Eff	72.6 %
CO ₂	2.8 %
T-Stk	325 °F
T-Air	83.7 °F
EA	250.0 %
CO(15)	0 ppm
NO	14.6 ppm
NO ₂	3.8 ppm
NO _x	18.3 ppm
NO(15)	17 ppm
NO ₂ (15)	4 ppm
NO _x (15)	21 ppm
Flow	0.79 LPM

MW-8.7

Comments:

Signature:

EMISSION T

Date: 6/12/23	GT 1 DB
Start Test	06:57:00
Recorded Test	07:12:37
O2	14.9%
CO	5 PPM
Eff	74.8%
CO2	3.4%
T-Stk	326 F
T-Air	77.1 F
EA	220.2 F
CO (15)	
NO	12.2 PPM
NO2	3.4 PPM
NOX	15.6 PPM
SO2	
NO (15)	12 PPM
NOX (15)	15 PPM
SO2 (15)	
Mega Watts	9.0 MW
KSCF/hour	19

Signature: _____

Date:	BLR 2
Start Test	
Recorded Test	
O2	
CO	
Eff	
CO2	
T-Stk	
T-Air	
EA	
CO (15)	
NO	
NO2	
NOX	
SO2	
NO (15)	
NOX (15)	
SO2 (15)	
K lbs/hour	

Signature: _____

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 07:12:37
Date: 06/12/23

Fuel
NGAS

O2 14.9 %
CO 5 ppm
Eff 74.8 %
CO2 3.4 %
T-Stk 326 F
T-Air 77.1 F
EA 220.2 %
CO (0) 17 ppm
NO 12.2 ppm
NO2 3.4 ppm
NOx 15.6 ppm
NO (15) 12 ppm
NO2 (15) 3 ppm
NOx (15) 15 ppm
Flow 0.79 LPM

Comments:

GT#1 → 9.0 MW
19 KSCFH

GY

GT2
07:31:00
07:46:34
16.3%
314 F
80.6 F
14.8 PPM
3.5 PPM
18.3 PPM
23.47 PPM
8.2

GT#2

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 07:46:34
Date: 06/12/23

Fuel
NGAS

O2 16.3 %
CO 0 ppm
Eff --- %
CO2 --- %
T-Stk 314 F
T-Air 80.6 F
EA --- %
CO (0) --- ppm
NO 14.8 ppm
NO2 3.5 ppm
NOx 18.3 ppm
NO (15) --- ppm
NO2 (15) --- ppm
NOx (15) --- ppm
Flow 0.80 LPM

Comments:

GT#2 → 8.2
(NOx)₁₅ = 23.47 PPM

S AND THEN PRINT TEST RESULTS

O THIS SHEET

DO NOT UNDECKLE (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

BACHARACH, INC.

PCA 400

SN: 20123585

EMISSION TEST

Date: 19 JUN 23	GT 1 DB	
Start Test	7:03 AM	
Recorded Test	7:16 AM	
O2	13.7 %	
CO	2 ppm	
Eff	77.2 %	
CO2	4.1 %	
T-Stk	328 °F	
T-Air	77.5 °F	
EA	168.3 %	
CO (15)		
NO	18.3 ppm	
NO2	2.4 ppm	
NOX	20.7 ppm	
SO2		
NO (15)	15 ppm	
NOX (15)	2 ppm	
SO2 (15)		
Mega Watts	9.4	
KSCF/hour	44	

Time: 07:16:27 AM

Date: 19/06/23

Fuel

NGAS

O2	13.7 %
CO	2 ppm
Eff	77.2 %
CO2	4.1 %
T-Stk	328 °F
T-Air	77.5 °F
EA	168.3 %
CO (15)	2 ppm
NO	18.3 ppm
NO2	2.4 ppm
NOx	20.7 ppm
NO (15)	15 ppm
NO2 (15)	2 ppm
NOx (15)	17 ppm
Flow	0.79 LPM

Comments:

GT1 9.4 MW

44 - KSCFH

GT2

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 07:26:20 AM

Date: 19/06/23

Fuel

NGAS

O2	15.5 %
CO	34 ppm
Eff	75.4 %
CO2	3.0 %
T-Stk	299 °F
T-Air	84.3 °F
EA	250.0 %
CO (15)	38 ppm
NO	3.4 ppm
NO2	17.6 ppm
NOx	21.0 ppm
NO (15)	4 ppm
NO2 (15)	19 ppm
NOx (15)	23 ppm
Flow	0.78 LPM

Comments:

BLR2-9 kph

Signature: _____

Date: 19 JUN 23	BLR 2			BLR
Start Test	7:11 AM			
Recorded Test	7:26 AM			
O2	15.5 %			
CO	34 ppm			
Eff	75.4 %			
CO2	3.0 %			
T-Stk	299 °F			
T-Air	84.3 °F			
EA	250.0 %			
CO (15)	38 ppm			
NO	3.4 ppm			
NO2	17.6 ppm			
NOX	21 ppm			
SO2				
NO (15)	4 ppm			
NOX (15)	23 ppm			
SO2 (15)				
K lbs/hour	9			

Signature: _____

S AND THEN PRINT TEST RESULTS

INUTES AND THEN PRINT TEST RESULTS

FORM TO THIS SHEET

EMISSION TEST

Date: 26 JUN 23	GT 1 DB
Start Test	8:12 AM
Recorded Test	8:15 AM
O2	13.8 %
CO	2 ppm
Eff	78.6 %
CO2	4 %
T-Stk	310 F
T-Air	88.6 F
EA	171.4 %
CO (15)	1 ppm
NO	11.5 ppm
NO2	2.6 ppm
NOX	19.1 ppm
SO2	
NO (15)	14 ppm
NOX (15)	2 ppm
SO2 (15)	
Mega Watts	8.8
KSCF/hour	38

HRSG 1

*"ja"7L

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:15:40 AM
Date: 26/06/23

Fuel
NGAS

O2	13.8 %
CO	2 ppm
Eff	78.6 %
CO2	4.0 %
T-Stk	310 F
T-Air	88.6 F
EA	171.4 %
CO (15)	1 ppm
NO	16.5 ppm
NO2	2.6 ppm
NOx	19.1 ppm
NO (15)	14 ppm
NO2 (15)	2 ppm
NOx (15)	16 ppm
Flow	0.78 LPM

Boiler #2

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:22:14 AM
Date: 26/06/23

Fuel
NGAS

O2	8.2 %
CO	102 ppm
Eff	83.9 %
CO2	7.2 %
T-Stk	293 F
T-Air	88.9 F
EA	57.8 %
CO (15)	47 ppm
NO	18.0 ppm
NO2	15.6 ppm
NOx	33.6 ppm
NO (15)	8 ppm
NO2 (15)	7 ppm
NOx (15)	16 ppm
Flow	0.78 LPM

Signature:

Spencer Jones

Comments: GT #1 → 8-8
D.B = 38 KSCFH

Comments: Boiler #2
18 KPPH

Date: 26 JUN 23	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	8:07 AM			
Recorded Test	8:22 AM			
O2	8.2 %			
CO	102 ppm			
Eff	83.9 %			
CO2	7.2 %			
T-Stk	293 F			
T-Air	88.9 F			
EA	57.8 %			
CO (15)	47 ppm			
NO	18.0 ppm			
NO2	15.6 ppm			
NOX	33.6 ppm			
SO2				
NO (15)	8 ppm			
NOX (15)	16 ppm			
SO2 (15)				
K lbs/hour	18			

Signature:

UT 15 MINUTES AND THEN PRINT TEST RESULTS

T 3-5 MINUTES AND THEN PRINT TEST RESULTS

TACH FORM TO THIS SHEET



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

October 10, 2023

Dakota Blum
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Mr. Blum:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of July 1, 2023, through September 30, 2023.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Anthony Grancitelli, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	645.20	0.00	84078.81	0.00		522,250,000	0	547,031	0	0.0420	0.0000	0.0420	5.0868	0.0000	5.0868	0.1261	0.0000	0.1261	0.2522	0.0000	0.2522	0.2060	0.0000	0.2060	0.2060	0.0000	0.2060
Turbine 2	0.00	0.00	0.00	0.00		407,880,000	0	427,234	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Duct Burner 1	269.40		9175.66			93,730,000		98,177		0.0247		0.0247	0.0596		0.0596	0.0459		0.0459	0.0027		0.0027	0.0090		0.0090	0.0090		0.0090
Duct Burner 2	0.00		0.00			83,290,000		87,242		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000			0.0000	0.0000		0.0000
Boiler 2	343.60	25.90	4349.01	74.65						0.0005	0.0001	0.0006	0.2210	0.0046	0.2256	0.0012	0.0008	0.0020	0.0013	0.0016	0.0029	0.0195	0.0029	0.0224	0.0195	0.0029	0.0224
Boiler 4	488.30	0.70	12297.06	1.40						0.0026	0.0000	0.0026	0.6300	0.0001	0.6301	0.0133	0.0000	0.0133	0.0036	0.0000	0.0036	0.0370	0.0000	0.0371	0.0370	0.0000	0.0371
Emerg. Gen.		0.00		0.000	2.5						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Mobile Boiler	352.10	0.00	2583.01	0.00						0.0052	0.0000	0.0052	0.0465	0.0000	0.0465	0.0484	0.0000	0.0484	0.0008	0.0000	0.0008	0.0137	0.0000	0.0137	0.0137	0.0000	0.0137
Emissions Total										0.0751	0.0001	0.0751	6.0440	0.0046	6.0486	0.2349	0.0008	0.2358	0.2606	0.0017	0.2623	0.2852	0.0030	0.2882	0.2852	0.0030	0.2882

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.40	103.67	5.93	3.38	5.61	5.61
		OK	OK	OK	OK	OK	OK

EMISSION TEST COLLEGE PARK ENERGY

Boner #2

Date: 7/4/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	09:49:22AM			
Recorded Test	09:52:22AM			
O2	13.5 %			
CO	0 ppm			
Eff	79.1 %			
CO2	4.2 %			
T-Stk	316 °F			
T-Air	95.1 °F			
EA	161.4 %			
CO (15)	0 ppm			
NO	14.3 ppm			
NO2	2.4 ppm			
NOX	16.8 ppm			
SO2				
NO (15)	11 ppm			
NOX (15)	13 ppm			
SO2 (15)				
Mega Watts				
KSCF/hour	46			

Signature: Dana Fulton

Date: 7/4/23	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	09:21:29AM			
Recorded Test	09:42:29AM			
O2	12.2 %			
CO	0 ppm			
Eff	81.3 %			
CO2	4.9 %			
T-Stk	299 °F			
T-Air	93.0 °F			
EA	123.9 %			
CO (15)	0 ppm			
NO	27.7 ppm			
NO2	1.1 ppm			
NOX	28.8 ppm			
SO2				
NO (15)	19 ppm			
NOX (15)	19 ppm			
SO2 (15)				
K lbs/hour	12k pph			

Signature: Dana Fulton

BACHARACH, INC.

PCA 400
SN: 20123585

Time: 09:42:29 AM

Date: 04/07/23

Fuel
NGAS

O2	12.2 %
CO	0 ppm
Eff	81.3 %
CO2	4.9 %
T-Stk	299 °F
T-Air	93.0 °F
EA	123.9 %
CO (15)	0 ppm
NO	27.7 ppm
NO2	1.1 ppm
NOx	28.8 ppm
NO (15)	19 ppm
NO2 (15)	1 ppm
NOx (15)	19 ppm
F1o7	0.76 LPM

GT 1 DB

BACHARACH, INC.

PCA 400
SN: 20123585

Time: 09:52:22 AM

Date: 04/07/23

Fuel
NGAS

O2	13.5 %
CO	0 ppm
Eff	79.1 %
CO2	4.2 %
T-Stk	316 °F
T-Air	95.1 °F
EA	161.4 %
CO (15)	0 ppm
NO	14.3 ppm
NO2	2.4 ppm
NOx	16.8 ppm
NO (15)	11 ppm
NO2 (15)	2 ppm
NOx (15)	13 ppm
F1o7	0.78 LPM

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	07:48:43			
Recorded Test	07:56:43			
O2	13.2%			
CO	3ppm			
Eff	79.3%			
CO2	4.4%			
T-Stk	306°F			
T-Air	82.3°F			
EA	152.4%			
CO (15)	2 ppm			
NO	21.4 ppm			
NO2	3.2 ppm			
NOX	24.5 ppm			
SO2				
NO (15)	16 ppm			
NOX (15)	19 ppm			
SO2 (15)				
Mega Watts				
KSCF/hour				

Boiler: RECORD TIME PROBE IS INSERTED (Start)

GT: RECORD TIME PROBE IS INSERTED (Start).

WHEN FINISHED TESTING

Signature: *[Signature]*

Date:	BLR 2	BL
Start Test	07:59:26	
Recorded Test	08:07:26	
O2	17.8%	
CO	20ppm	
Eff		
CO2		
T-Stk	141°F	
T-Air	87.1°F	
EA		
CO (15)		
NO	3.5ppm	
NO2	3.5ppm	
NOX	7.0ppm	
SO2		
NO (15)		
NOX (15)	13.3 ppm	
SO2 (15)		
K lbs/hour		

Signature: *[Signature]*

#165 8.9 le v

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:56:43 AM
Date: 10/07/23

Fuel
NGAS

O2 13.2 %
CO 3 ppm
Eff 79.3 %
CO2 4.4 %
T-Stk 306 F
T-Air 82.3 F
EA 152.4 %
CO(15) 2 ppm
NO 21.4 ppm
NO2 3.2 ppm
NOx 24.5 ppm
NO(15) 16 ppm
NO2(15) 2 ppm
NOx(15) 19 ppm
Flow 0.78 LPM

Comments:

GT1 DB

KSCF 11.45

Boiler #2

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:07:26 AM
Date: 10/07/23

Fuel
NGAS

O2 17.8 %
CO 20 ppm
Eff --- %
CO2 --- %
T-Stk 141 F
T-Air 87.1 F
EA --- %
CO(15) --- ppm
NO 3.5 ppm
NO2 3.5 ppm
NOx 7.0 ppm
NO(15) --- ppm
NO2(15) --- ppm
NOx(15) --- ppm
Flow 0.76 LPM

NOX = 13.3 CORRECTION

Comments:

ACFM = 427.1

Boiler #2

EMISSION TEST COLLE

7/17/23

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:16:14 AM
Date: 17/07/23

Fuel
NGAS

O₂ 8.5 %
CO 0 ppm
Eff 83.4 %
CO₂ 7.0 %
T-Stk 296 °F
T-Air 78.7 °F
EA 61.3 %
CO (15) 0 ppm
NO 31.9 ppm
NO₂ 0.0 ppm
NO_x 31.9 ppm
NO (15) 15 ppm
NO₂ (15) 0 ppm
NO_x (15) 15 ppm
Flow 0.78 LPM

7/17/23

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:22:04 AM
Date: 17/07/23

Fuel
NGAS

O₂ 15.8 %
CO 0 ppm
Eff 94.9 %
CO₂ 2.9 %
T-Stk 86 °F
T-Air 83.3 °F
EA 250.0 %
CO (15) 0 ppm
NO 15.3 ppm
NO₂ 3.3 ppm
NO_x 18.6 ppm
NO (15) 18 ppm
NO₂ (15) 4 ppm
NO_x (15) 21 ppm
Flow 0.78 LPM

Date:	GT 1 DB	GT 2 DB
Start Test	8:20 am	
Recorded Test	8:23 am	
O ₂	15 %	
CO	0	
Eff	94	
CO ₂	2.9	
T-Stk	86	
T-Air	83.3	
EA	250	
CO (15)	0	
NO	15.3	
NO ₂	3.3	
NO _x	18.6	
SO ₂	4	
NO (15)		
NO _x (15)	21	
SO ₂ (15)		
Mega Watts	8.8	
KSCF/hour	43	

Signature:

D. Green

Comments:

18 KPPH

Date:	BLR 2	BLR 4
Start Test	8:14 am	
Recorded Test	8:16 am	
O ₂	8.5	
CO	0	
Eff	83.4	
CO ₂	7.0	
T-Stk	296	
T-Air	78.7	
EA	61.3	
CO (15)	0	
NO	31.9	
NO ₂	0	
NO _x	31.9	
SO ₂		
NO (15)	15	
NO _x (15)	15	
SO ₂ (15)		
K lbs/hour	18	

Signature:

D. Green

Comments:

MW=8-8 DB=43 KSCPH

AND THEN PRINT TEST RESULTS

ND THEN PRINT TEST RESULTS

THIS SHEET

4/10/23

4 10/10/23

BACTHARACTL, INC.

PCA 400

SN: 70123585

Time: 08:22:04 AM
Date: 17/07/23

Fuel
NGAS

O ₂	15.8 %
CO	0 ppm
EFF	94.9 %
CO ₂	2.9 %
T-Slk	86 °F
T-Air	83.3 °F
PA	250.0 %
CO(15)	0 ppm
NO	15.3 ppm
NO ₂	3.3 ppm
NOx	18.6 ppm
NO(15)	18 ppm
NO ₂ (15)	4 ppm
NOx(15)	21 ppm
Flow	0.78 LPM

Comments:

GT#1

11/17/23



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:16:14 AM
Date: 17/07/23

Fuel
NGAS

O ₂	8.5 %
CO	0 ppm
EFF	83.4 %
CO ₂	7.0 %
T-Slk	296 °F
T-Air	78.7 °F
EA	61.3 %
CO(15)	0 ppm
NO	31.9 ppm
NO ₂	0.0 ppm
NOx	31.9 ppm
NO(15)	15 ppm
NO ₂ (15)	0 ppm
NOx(15)	15 ppm
Flow	0.78 LPM

Comments:

[Handwritten signature]

EMISSION TEST COLLEGE PARK ENERGY

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

Date: 7/24/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	8:00 Am			
Recorded Test	8:04 Am			
O2	15.8 %			
CO	0			
Eff	97.2%			
CO2	2.9			
T-Stk	82			
T-Air	71.0			
EA	250			
CO (15)	0			
NO	14.7			
NO2	3.2			
NOX	17.9			
SO2	17			
NO (15)	4			
NOX (15)	21			
SO2 (15)	0.79			
Mega Watts	8.5			


Signature:

D. Green

Date: 7/24/23	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	8:52			
Recorded Test	8:58			
O2	11.5 %			
CO	0			
Eff	81.0			
CO2	5.3			
T-Stk	290			
T-Air	81.5			
EA	109			
CO (15)	0			
NO	34			
NO2	1.2			
NOX	35.5			
SO2	2.2			
NO (15)	1			
NOX (15)	2.2			
SO2 (15)	0.78			
Mega Watts				

Signature:

D. Green


BACHARACH, INC.
PCA 400
SN: 18041087

Time: 08:58:15
Date: 07/24/23

Fuel
NGAS

O ₂	11.5 %
CO	0 ppm
Eff	81.8 %
CO ₂	5.3 %
T-Stk	290 °F
T-Air	81.5 °F
EA	109.5 %
CO(O)	0 ppm
NO	34.3 ppm
NO ₂	1.2 ppm
NOx	35.5 ppm
NO(15)	22 ppm
NO ₂ (15)	1 ppm
NOx(15)	22 ppm
Flow	0.78 LPM

Comments:
BLV #2



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 08:04:41
Date: 07/24/23

Fuel
NGAS

O ₂	15.8 %
CO	0 ppm
Eff	97.2 %
CO ₂	2.9 %
T-Stk	82 °F
T-Air	71.0 °F
EA	250.0 %
CO(O)	0 ppm
NO	14.7 ppm
NO ₂	3.2 ppm
NOx	17.9 ppm
NO(15)	17 ppm
NO ₂ (15)	4 ppm
NOx(15)	21 ppm
Flow	0.79 LPM

Comments:
GT#1

EMISSION TEST COLLECTOR

Date: 31 Jul 23	GT 1 DB	GT 2 DB
Start Test	07:35	
Recorded Test	07:40	
O2	13 %	
CO	3 ppm	
Eff	75.8 %	
CO2	4.3 %	
T-Stk	375 °F	
T-Air	86 °F	
EA	155.4 %	
CO (15)	3 ppm	
NO	19.6 ppm	
NO2	2.8 ppm	
NOX	22.4 ppm	
SO2		
NO (15)	15 ppm	
NOX (15)	17 ppm	
SO2 (15)		
Mega Watts	8.5	
KSCF/hour	46	

Signature: _____

Spencer Jones

Date:	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	11:28			
Recorded Test	11:43			
O2	12.1 %			
CO	0 ppm			
Eff	81.1 %			
CO2	5.0 %			
T-Stk	298 °F			
T-Air	85.5 °F			
EA	122.6 %			
CO (15)	0 ppm			
NO	34.9 ppm			
NO2	1.5 ppm			
NOX	36.4 ppm			
SO2				
NO (15)	23 ppm			
NOX (15)	24 ppm			
SO2 (15)				
K lbs/hour	12			

Signature: _____

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 11:43:36 AM
Date: 31/07/23

Fuel
NGAS

O2 12.1 %
CO 0 ppm
Eff 81.1 %
CO2 5.0 %
T-Stk 298 °F
T-Air 85.5 °F
EA 122.6 %
CO (15) 0 ppm
NO 34.9 ppm
NO2 1.5 ppm
NOx 36.4 ppm
NO (15) 23 ppm
NO2 (15) 1 ppm
NOx (15) 24 ppm
Flow 0.78 LPM

Comments: _____

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 07:40:40 AM
Date: 31/07/23

Fuel
NGAS

O2 13.3 %
CO 3 ppm
Eff 75.8 %
CO2 4.3 %
T-Stk 375 °F
T-Air 86.0 °F
EA 155.4 %
CO (15) 3 ppm
NO 19.6 ppm
NO2 2.8 ppm
NOx 22.4 ppm
NO (15) 15 ppm
NO2 (15) 2 ppm
NOx (15) 17 ppm
Flow 0.79 LPM

Comments: _____

MW: 8.5
D.B = 46 KSCF

MINUTES AND THEN PRINT TEST RESULTS

MINUTES AND THEN PRINT TEST RESULTS

FORM TO THIS SHEET

HRSG #1

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

BACHARACH

Boiler 2
BACHARACH, INC.
PCA 400
SN: 18041087

EMISSION TEST

Date: 7 AUG 23	GT 1 DB
Start Test	10:16
Recorded Test	10:19
O2	13.1%
CO	2 PPM
Eff	76.4%
CO2	4.5%
T-Stk	375 F
T-Air	88.9 F
EA	146.6%
CO (15)	
NO	21.9 ppm
NO2	2.9 ppm
NOX	24.8 ppm
SO2	
NO (15)	16 ppm
NOX (15)	19 ppm
SO2 (15)	
Mega Watts	8.6
KSCF/hour	50

Signature:

[Signature]

Time: 10:19:46
Date: 08/07/23

Fuel
NGAS

O2 13.0 %
CO 2 ppm
Eff 76.4 %
CO2 4.5 %
T-Stk 375 F
T-Air 88.9 F
EA 146.6 %
CO (0) 5 ppm
NO 21.9 ppm
NO2 2.9 ppm
NOx 24.8 ppm
NO (15) 16 ppm
NO2 (15) 2 ppm
NOx (15) 19 ppm
Flow 0.79 LPM

Comments:

97-5.16
KSCFh-50

GT2

Time: 09:11:41
Date: 08/07/23

Fuel
NGAS

O2 9.3 %
CO 0 ppm
Eff 83.6 %
CO2 6.6 %
T-Stk 294 F
T-Air 94.9 F
EA 70.8 %
CO (0) 0 ppm
NO 27.2 ppm
NO2 0.0 ppm
NOx 27.2 ppm
NO (15) 14 ppm
NO2 (15) 0 ppm
NOx (15) 14 ppm
Flow 0.79 LPM

Comments:

16- Kph

BLR 4

Date: 7 AUG 23	BLR 2
Start Test	8:57
Recorded Test	9:11
O2	9.3%
CO	0 ppm
Eff	83.6%
CO2	6.6%
T-Stk	294 F
T-Air	94.9 F
EA	70.8%
CO (15)	
NO	27.2 ppm
NO2	0.0 ppm
NOX	27.2 ppm
SO2	
NO (15)	14 ppm
NOX (15)	14 ppm
SO2 (15)	
K lbs/hour	10

Signature:

[Signature]

TESTS AND THEN PRINT TEST RESULTS

TESTS AND THEN PRINT TEST RESULTS

CRM TO THIS SHEET

abcdefghijklmnopqrstuvwxyz{|}~!
abcdefghijklmnopqrstuvwxyz{|}~!"

BACHARACH

BACHARACH

EMISSION TEST

BACHARACH, INC.
PCA 400
SN: 20123585

GT

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:09:14 AM
Date: 14/08/23

Time: 09:56:37 AM
Date: 14/08/23

Fuel
NGAS

Fuel
NGAS

O₂ 13.0 %
CO 2 ppm
Eff 76.2 %
CO₂ 4.5 %
T-Stk 386 °F
T-Air 96.7 °F
EA 146.7 %
CO (15) 2 ppm
NO 17.4 ppm
NO₂ 2.8 ppm
NO_x 20.2 ppm
NO (15) 13 ppm
NO₂ (15) 2 ppm
NO_x (15) 15 ppm
Flow 0.82 LPM

O₂ 12.1 %
CO 0 ppm
Eff 81.5 %
CO₂ 5.0 %
T-Stk 295 °F
T-Air 90.8 °F
EA 122.0 %
CO (15) 0 ppm
NO 31.4 ppm
NO₂ 1.3 ppm
NO_x 32.7 ppm
NO (15) 21 ppm
NO₂ (15) 1 ppm
NO_x (15) 22 ppm
Flow 0.78 LPM

Comments:

Comments:

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

Signature:



BL

UTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

Date: 14 AUG 23	BLR2
Start Test	9:41
Recorded Test	9:56
O ₂	12 %
CO	0 ppm
Eff	81.5 %
CO ₂	5.0 %
T-Stk	295 °F
T-Air	90.8 °F
EA	122 %
CO (15)	0 ppm
NO	31.4 ppm
NO ₂	1.3 ppm
NO _x	32.7 ppm
SO ₂	
NO (15)	21 ppm
NO _x (15)	22 ppm
SO ₂ (15)	
K lbs/hour	

Signature:



Signature:

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature: _____

Date:	BLR 2	BLR 4
Start Test	6:54	7:24
Recorded Test	6:57	7:27
O2	3.8%	7.2%
CO	10 ppm	0 ppm
Eff	82.5%	81.0%
CO2	9.7%	7.8%
T-Stk	399 F	392 F
T-Air	83.2 F	81.3 F
EA	19.5%	46.3%
CO (15)		
NO	39.5 ppm	26.6 ppm
NO2	3.8 ppm	0.0 ppm
NOX	43.4 ppm	26.6 ppm
SO2		
NO (15)	14 ppm	11 ppm
NOX (15)	15 ppm	11 ppm
SO2 (15)		
K lbs/hour	75	

Signature: _____

#2 ROLLER
BACHARACH

BACHARACH INC. 75 KPMK
PCA 400
SN: 18041087

Time: 06:57:52
Date: 08/28/23

Fuel
NGAS

O2: 3.8 %
CO 10 ppm
Eff 82.5 %
CO2 9.7 %
T-Stk 399 F
T-Air 83.2 F
EA 19.5 %
CO (0) 12 ppm
NO 39.5 ppm
NO2 3.8 ppm
NOx 43.4 ppm
NO (15) 14 ppm
NO2 (15) 1 ppm
NOx (15) 15 ppm
Flow 0.77 LPM

Comments: 1901 ACFA

MOBILE 286
n:Yg

BACHARACH INC.
PCA 400
SN: 18041087

Time: 07:27:55
Date: 08/28/23

Fuel
NGAS

O2: 7.2 %
CO 0 ppm
Eff 81.0 %
CO2 7.8 %
T-Stk 392 F
T-Air 81.3 F
EA 46.3 %
CO (0) 0 ppm
NO 26.6 ppm
NO2 0.0 ppm
NOx 26.6 ppm
NO (15) 11 ppm
NO2 (15) 0 ppm
NOx (15) 11 ppm
Flow 0.79 LPM

Comments: _____

UTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date: 9/4/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	09:48			
Recorded Test	09:54			
O2	13.7 %			
CO	2 ppm			
Eff	79.8 %			
CO2	4.1 %			
T-Stk	289°F			
T-Air	86.9°F			
EA	167.7 %			
CO (15)	1 ppm			
NO	12.7 ppm			
NO2	2.2 ppm			
NOX	14.9 ppm			
SO2	-			
NO (15)	10 ppm			
NOX (15)	12 ppm			
SO2 (15)	-			
Mega Watts	8.0 MW			
KSCF/hour	36 KSCFH			

Signature: _____

Date: 9/4/23	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	17:08			
Recorded Test	17:08			
O2	15.5 %			
CO	29 ppm			
Eff	75.3 %			
CO2	3.1 %			
T-Stk	292°F			
T-Air	73.6°F			
EA	250.0 %			
CO (15)	32 ppm			
NO	7.4 ppm			
NO2	16.1 ppm			
NOX	23.5 ppm			
SO2	-			
NO (15)	8 ppm			
NOX (15)	26 ppm			
SO2 (15)	-			
K lbs/hour	10 KPPH			

Signature: _____

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:54:25 AM
Date: 04/09/23

Fuel
NGAS

O ₂	13.7 %
CO	2 ppm
Eff	79.8 %
CO ₂	4.1 %
T-Stk	289 °F
T-Air	86.9 °F
EA	167.7 %
CO(15)	1 ppm
NO	12.7 ppm
NO ₂	2.2 ppm
NO _x	14.9 ppm
NO(15)	10 ppm
NO ₂ (15)	2 ppm
NO _x (15)	12 ppm
Flow	0.79 LPM

Comments:

GT1/HRS67



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 05:08:04 PM
Date: 04/09/23

Fuel
NGAS

O ₂	15.5 %
CO	29 ppm
Eff	75.3 %
CO ₂	3.1 %
T-Stk	292 °F
T-Air	73.6 °F
EA	250.0 %
CO(15)	32 ppm
NO	7.4 ppm
NO ₂	16.1 ppm
NO _x	23.5 ppm
NO(15)	8 ppm
NO ₂ (15)	18 ppm
NO _x (15)	26 ppm
Flow	0.78 LPM

Comments:

Boiler 2

EMISSION TEST COLLEGE PARK ENERGY

Date: 9/11/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	07:37			
Recorded Test	07:42			
O ₂	13.9%			
CO	3 ppm			
Eff	77.7%			
CO ₂	3.9%			
T-Stk	321°F			
T-Air	89.3°F			
EA	178.5%			
CO (15)	2 ppm			
NO	177 ppm			
NO ₂	2.4 ppm			
NOX	20.1 ppm			
SO ₂	***			
NO (15)	15 ppm			
NOX (15)	17 ppm			
SO ₂ (15)	***			
Mega Watts	8.2 MW			
KSCF/hour	42			

Signature: _____

Date: 9/11/23	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	07:29	07:34		
Recorded Test	07:34	07:39		
O ₂	15.5%	10.4%		
CO	31 ppm	0 ppm		
Eff	76.2%	79.2%		
CO ₂	3.1%	5.9%		
T-Stk	293°F	361°F		
T-Air	85°F	86.4°F		
EA	250%	88.4%		
CO (15)	34 ppm	0 ppm		
NO	6.1 ppm	47.8 ppm → 47.8 ppm		
NO ₂	14.7 ppm	1.3 ppm → 1.3 ppm		
NOX	20.8 ppm	49.0 ppm		
SO ₂	xxx	xxx		
NO (15)	7 ppm	27 ppm		
NOX (15)	23 ppm	26 ppm		
SO ₂ (15)	xxx	xxx		
K lbs/hour				

Signature: _____

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:30:39 AM
Date: 11/09/23

Fuel
NGAS

O ₂	10.4 %
CO	0 ppm
Eff	79.2 %
CO ₂	5.9 %
T-Stk	381 °F
T-Air	86.4 °F
EA	88.4 %
CO(15)	0 ppm
NO	47.8 ppm
NO ₂	1.3 ppm
NOx	49.0 ppm
NO(15)	27 ppm
NO ₂ (15)	1 ppm
NOx(15)	28 ppm
Flow	0.79 LPM

Comments:

BR#4



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:50:58 AM
Date: 11/09/23

Fuel
NGAS

O ₂	16.4 %
CO	0 ppm
Eff	---
CO ₂	---
T-Stk	77 °F
T-Air	87.9 °F
EA	---
CO(15)	---
NO	11.7 ppm
NO ₂	1.4 ppm
NOx	13.1 ppm
NO(15)	---
NO ₂ (15)	---
NOx(15)	---
Flow	0.80 LPM

Comments:

GT #1



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:42:52 AM
Date: 11/09/23

Fuel
NGAS

O ₂	13.9 %
CO	3 ppm
Eff	77.7 %
CO ₂	3.9 %
T-Stk	321 °F
T-Air	89.3 °F
EA	178.5 %
CO(15)	2 ppm
NO	17.7 ppm
NO ₂	2.4 ppm
NOx	20.1 ppm
NO(15)	15 ppm
NO ₂ (15)	2 ppm
NOx(15)	17 ppm
Flow	0.79 LPM

Comments:

AGS
Stack #1



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:34:50 AM
Date: 11/09/23

Fuel
NGAS

O ₂	15.5 %
CO	31 ppm
Eff	76.2 %
CO ₂	3.1 %
T-Stk	293 °F
T-Air	85.0 °F
EA	250.0 %
CO(15)	34 ppm
NO	6.1 ppm
NO ₂	14.7 ppm
NOx	20.8 ppm
NO(15)	7 ppm
NO ₂ (15)	16 ppm
NOx(15)	23 ppm
Flow	0.78 LPM

Comments:

BUR#2

CP69902

EMISSION TEST COLLEGE PARK ENERGY

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

Date: 9/18/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			0725	
Recorded Test			0731	
O2			16.0%	
CO			0 ppm	
Eff			74.1%	
CO2			2.8%	
T-Stk			305 °F	
T-Air			89.8 °F	
EA			250%	
CO (15)			0 ppm	
NO			1.5 ppm	
NO2			2.2 ppm	
NOX			9.7 ppm	
SO2			XX	
NO (15)			9 ppm	
NOX (15)			12 ppm	
SO2 (15)			XX	
Mega Watts				
KSCF/hour				

Signature: 

Date: 9/18/23	Med BLR 2	BLR 4	BLR 2	BLR 4
Start Test	0642	0704		
Recorded Test	0658	0721		
O2	7.3%	5.9 %		
CO	0 ppm	0 ppm		
Eff	40.6%	79.8%		
CO2	7.7 %	8.5 %		
T-Stk	394 °F	473 °F		
T-Air	73.4 °F	95.9 °F		
EA	47.8 %	34.8%		
CO (15)	0 ppm	0 ppm		
NO	26.7 ppm	6.4 ppm		
NO2	0 ppm	0 ppm		
NOX	26.7 ppm	6.4 ppm		
SO2	XX	XX		
NO (15)	12 ppm	25 ppm		
NOX (15)	12 ppm	25 ppm		
SO2 (15)	XX	XX		
K lbs/hour	17% (V/LK)			

Signature: 



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:31:55 AM
Date: 18/09/23

Fuel
NGAS

O ₂	16.0 %
CO	0 ppm
Eff	74.1 %
CO ₂	2.8 %
T-Stk	305 °F
T-Air	89.8 °F
EA	250.0 %
CO(15)	0 ppm
NO	7.5 ppm
NO ₂	2.2 ppm
NO _x	9.7 ppm
NO(15)	9 ppm
NO ₂ (15)	3 ppm
NO _x (15)	12 ppm
Flow	0.79 LPM

Comments:

GT-1
w/o D.B.



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 07:21:14 AM
Date: 18/09/23

Fuel
NGAS

O ₂	5.9 %
CO	0 ppm
Eff	79.8 %
CO ₂	8.5 %
T-Stk	473 °F
T-Air	95.9 °F
EA	34.8 %
CO(15)	0 ppm
NO	64 ppm
NO ₂	0.0 ppm
NO _x	64 ppm
NO(15)	25 ppm
NO ₂ (15)	0 ppm
NO _x (15)	25 ppm
Flow	0.78 LPM

Comments:

Boiler #4



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 06:58:36 AM
Date: 18/09/23

Fuel
NGAS

O ₂	7.3 %
CO	0 ppm
Eff	80.6 %
CO ₂	7.7 %
T-Stk	394 °F
T-Air	73.4 °F
EA	47.8 %
CO(15)	0 ppm
NO	28.7 ppm
NO ₂	0.0 ppm
NO _x	28.7 ppm
NO(15)	12 ppm
NO ₂ (15)	0 ppm
NO _x (15)	12 ppm
Flow	0.79 LPM

Comments:

Boiler 2

EMISSION TEST COLLEGE PARK ENERGY

Date: 9/25/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test			0857	
Recorded Test			0906	
O2			16.1%	
CO			0 ppm	
Eff				
CO2			0 ppm	
T-Stk			326°F	
T-Air			87.3°F	
EA				
CO (15)			0 ppm	
NO			14.1	
NO2			2.4	
NOX			16.5	
SO2			XXX	
NO (15)			17.3 ppm	
NOX (15)			20.3 ppm	
SO2 (15)			XXX	
Mega Watts			7.9 MW	
KSCF/hour				

Signature: K. [Signature]

Date: 9/25/23	Mobile BLR 2	BLR 4	BLR 2	BLR 4
Start Test	0803	0828		
Recorded Test	0821	0846		
O2	7.6%	5.3%		
CO	0	0		
Eff	80.7%	78.3%		
CO2	7.5%	8.8%		
T-Stk	397°F	546°F		
T-Air	83.6°F	106.7°F		
EA	50.5%	30.5%		
CO (15)	0 ppm	0 ppm		
NO	25.9 ppm	74 ppm		
NO2	0	0 ppm		
NOX	25.9 ppm	74 ppm		
SO2	XXX	XXX		
NO (15)	11 ppm	28 ppm		
NOX (15)	11 ppm	28 ppm		
SO2 (15)	XXX	XXX		
K lbs/hour	~15 KppH	32 KppH		

Signature: K. [Signature]

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:46:23 AM
Date: 25/09/23

Fuel
NGAS

O ₂	5.3 %
CO	0 ppm
Eff	78.3 %
CO ₂	8.8 %
T-Stk	546 °F
T-Air	106.7 °F
EA	30.5 %
CO(15)	0 ppm
NO	74 ppm
NO ₂	0.0 ppm
NO _x	74 ppm
NO(15)	28 ppm
NO ₂ (15)	0 ppm
NO _x (15)	28 ppm
Flow	0.76 LPM

Comments:



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:06:09 AM
Date: 25/09/23

Fuel
NGAS

O ₂	16.1 %
CO	0 ppm
Eff	---
CO ₂	---
T-Stk	326 °F
T-Air	87.3 °F
EA	---
CO(15)	---
NO	14.1 ppm
NO ₂	2.4 ppm
NO _x	16.5 ppm
NO(15)	---
NO ₂ (15)	---
NO _x (15)	---
Flow	0.77 LPM

Comments:



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:21:22 AM
Date: 25/09/23

Fuel
NGAS

O ₂	7.6 %
CO	0 ppm
Eff	80.7 %
CO ₂	7.5 %
T-Stk	397 °F
T-Air	83.6 °F
EA	50.5 %
CO(15)	0 ppm
NO	25.9 ppm
NO ₂	0.0 ppm
NO _x	25.9 ppm
NO(15)	11 ppm
NO ₂ (15)	0 ppm
NO _x (15)	11 ppm
Flow	0.78 LPM

Comments:



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

January 8, 2024

Dakota Blum
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Mr. Blum:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of October 1, 2023, through December 31, 2023.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Anthony Grancitelli, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

University of Maryland- Combined Heating and Power Plant Facility December 2023

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	440.80	0.00	55452.00	0.00		690,060,000	0	722,803	0	0.0277	0.0000	0.0277	3.3548	0.0000	3.3548	0.0832	0.0000	0.0832	0.1664	0.0000	0.1664	0.1359	0.0000	0.1359	0.1359	0.0000	0.1359
Turbine 2	24.00	0.00	0.00	0.00		346,350,000	0	362,784	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Duct Burner 1	438.00		19419.72			143,220,000		150,016		0.0524		0.0524	0.1262		0.1262	0.0971		0.0971	0.0057		0.0057	0.0191		0.0191	0.0191		0.0191
Duct Burner 2	0.00		0.00			70,640,000		73,992		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000			0.0000		0.0000	
Boiler 2	679.40	26.00	4334.35	4747.51						0.0005	0.0037	0.0042	0.2203	0.2895	0.5098	0.0012	0.0521	0.0533	0.0013	0.1048	0.1060	0.0195	0.1857	0.2051	0.0195	0.1857	0.2051
Boiler 4	722.20	21.10	51860.30	3510.68						0.0111	0.0024	0.0135	2.6570	0.2294	2.8864	0.0561	0.0534	0.1095	0.0153	0.0755	0.0907	0.1562	0.1214	0.2776	0.1562	0.1214	0.2776
Emerg. Gen.		0.00		0.000	2.5						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000
Mobile Boiler	242.40	51.90	5116.77	72015.00						0.0102	0.0198	0.0300	0.0921	0.9882	1.0803	0.0959	0.1853	0.2812	0.0015	0.0077	0.0092	0.0271	0.4826	0.5097	0.0271	0.4826	0.5097
Emissions Total										0.1019	0.0258	0.1277	6.4504	1.5072	7.9576	0.3335	0.2908	0.6243	0.1901	0.1880	0.3781	0.3577	0.7896	1.1474	0.3577	0.7896	1.1474

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.46	83.56	5.88	3.72	4.78	4.78
		OK	OK	OK	OK	OK	OK

EMISSION TEST COLLEGE PARK

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 04:44:11 PM

Date: 02/10/23

Fuel
NGAS

BACHARACH, INC.

PCA 400 BOILER 2

SN: 20123585

Time: 04:36:51 PM

Date: 02/10/23

Fuel
NGAS

O2	5.5 %	6.7 %
CO	0 ppm	3 ppm
Eff	78.5 %	84.7 %
CO2	8.7 %	8.0 %
T-Stk	522 °F	283 °F
T-Air	94.4 °F	84.4 °F
EA	32.1 %	42.4 %
CO (15)	0 ppm	1 ppm
NO	78 ppm	44.3 ppm
NO2	0.0 ppm	3.4 ppm
NOx	78 ppm	47.7 ppm
NO (15)	30 ppm	18 ppm
NO2 (15)	0 ppm	1 ppm
NOx (15)	30 ppm	20 ppm
Flow	0.78 LPM	0.77 LPM

Signature:

Comments: 5TH & 41 KPPH

Date: 2/10/23	BLR 2	BLR 4	BLR 2
Start Test	4:30	4:39	4:50
Recorded Test	4:36	4:44	4:56
O2	6.7 %	5.5 %	5.9 %
CO	3 ppm	0 ppm	0 ppm
Eff	84.7 %	78.5 %	81.7 %
CO2	8.0 %	8.7 %	8.5 %
T-Stk	283 °F	522.2 °F	414 °F
T-Air	84.4 °F	94.4 °F	102.4 °F
EA	42.4 %	32.1 %	34.8 %
CO (15)	1 ppm	0 ppm	0 ppm
NO	44.3 ppm	78 ppm	20.8 ppm
NO2	3.4 ppm	0.0 ppm	0.0 ppm
NOX	47.7 ppm	78 ppm	20.8 ppm
SO2			
NO (15)	18 ppm	30 ppm	8 ppm
NOX (15)	20 ppm	30 ppm	8 ppm
SO2 (15)			
K lbs/hour	20	41	30 %

Signature:

SN: 20123585

Time: 04:53:24 PM

Date: 02/10/23

Fuel
NGAS

O2	5.9 %
CO	0 ppm
Eff	81.7 %
CO2	8.5 %
T-Stk	414 °F
T-Air	102.4 °F
EA	34.8 %
CO (15)	0 ppm
NO	20.8 ppm
NO2	0.0 ppm
NOx	20.8 ppm
NO (15)	8 ppm
NO2 (15)	0 ppm
NOx (15)	8 ppm
Flow	0.77 LPM

Comments:

30 %



BACHARACH, INC.

PCA 400 BOILER #2

SN: 20123585

EMISSION TEST COLLEGE P

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		

Time: 02:07:33 PM

Date: 09/10/23

Fuel
NGAS

O2 4.3 %
 CO 0 ppm
 Eff 84.0 %
 CO2 9.4 %
 T-Stk 338 °F
 T-Air 85.1 °F
 EA 22.7 %
 CO (15) 0 ppm
 NO 57 ppm
 NO2 1.8 ppm
 NOx 59 ppm
 NO (15) 20 ppm
 NO2 (15) 1 ppm
 NOx (15) 21 ppm
 Flow 0.76 LPM

Comments:

STEAM FLOW = 50 KPPH



BACHARACH, INC.

PCA 400 BOILER

SN: 20123585

Time: 02:28:35 PM

Date: 09/10/23

Fuel
NGAS

O2 5.9 %
 CO 0 ppm
 Eff 79.6 %
 CO2 8.4 %
 T-Stk 484 °F
 T-Air 103.1 °F
 EA 35.4 %
 CO (15) 0 ppm
 NO 75 ppm
 NO2 0.0 ppm
 NOx 75 ppm
 NO (15) 30 ppm
 NO2 (15) 0 ppm
 NOx (15) 30 ppm
 Flow 0.75 LPM

Comments:

STEAM FLOW = 40
KPPH

Signature: _____

Date: 9 OCT 23	BLR 2	BLR 4
Start Test	1:52 PM	2:13 PM
Recorded Test	2:07 PM	2:28 PM
O2	4.3 %	5.9 %
CO	0 PPM	0 PPM
Eff	84.0 %	79.6 %
CO2	9.4 %	8.4 %
T-Stk	338 °F	484 °F
T-Air	85.1 °F	103.1 °F
EA	22.7 %	35.4 %
CO (15)	0 PPM	0 PPM
NO	57 PPM	75 PPM
NO2	1.8 PPM	0.0 PPM
NOX	59 PPM	75 PPM
SO2		
NO (15)	20 PPM	30 PPM
NOX (15)	21 PPM	30 PPM
SO2 (15)		
lbs per hour		

Signature: _____

MINUTES AND THEN PRINT TEST RESULTS

MINUTES AND THEN PRINT TEST RESULTS

FORM TO THIS SHEET

BACHARACH, INC. #2

PCA 400

SN: 20123585

B01100

EMISSION TEST COLLEG

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		

Time: 07:09:17 AM

Date: 16/10/23

Fuel
NGAS

O₂ 3.4 %
 CO 10 ppm
 Eff 82.6 %
 CO₂ 9.9 %
 T-Stk 399 °F
 T-Air 80.2 °F
 EA 17.0 %
 CO(15) 3 ppm
 NO 53 ppm
 NO₂ 4.3 ppm
 NOx 57 ppm
 NO(15) 18 ppm
 NO₂(15) 1 ppm
 NOx(15) 19 ppm
 Flow 0.76 LPM

Comments:

1735 ACFM

Signature: _____

Date: 16 OCT 23	BLR 2	BLR 4	BLR 1	BLR 1
Start Test				
Recorded Test				
O2	3.4 %	5.6 %		
CO	10 ppm	0 ppm		
Eff	82.6 %	79.3 %		
CO2	9.9 %	8.6 %		
T-Stk	399 °F	497 °F		
T-Air	80.2 °F	97.4 °F		
EA	17 %	32.6 %		
CO (15)	3 ppm	0 ppm		
NO	53 ppm	72 ppm		
NO2	4.3 ppm	0.0 ppm		
NOX	57 ppm	72 ppm		
SO2				
NO (15)	18 ppm	28 ppm		
NOX (15)	19 ppm	28 ppm		
SO2 (15)				
lbs per hour				

Signature: _____



BACHARACH

BACHARACH, INC. #4

PCA 400

SN: 20123585

Time: 07:36:52 AM

Date: 16/10/23

Fuel
NGAS

O₂ 5.6 %
 CO 0 ppm
 Eff 79.3 %
 CO₂ 8.6 %
 T-Stk 497 °F
 T-Air 97.4 °F
 EA 32.6 %
 CO(15) 0 ppm
 NO 72 ppm
 NO₂ 0.0 ppm
 NOx 72 ppm
 NO(15) 28 ppm
 NO₂(15) 0 ppm
 NOx(15) 28 ppm
 Flow 0.75 LPM

Comments:

798 ACFM

UTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

4 TO THIS SHEET



BACHARACH, INC.

PCA 400

SN: 20123585 Boiler 2

Time: 07:04:16 AM

Date: 23/10/23

Fuel
NGAS

O ₂	3.7 %
CO	11 ppm
Eff	82.6 %
CO ₂	9.7 %
T-Stk	388 °F
T-Air	75.0 °F
EA	18.9 %
CO (15)	4 ppm
NO	56 ppm
NO ₂	4.5 ppm
NO _x	61 ppm
NO (15)	19 ppm
NO ₂ (15)	2 ppm
NO _x (15)	21 ppm
Flow	0.76 LPM

Comments:



BACHARACH, INC.

PCA 400

SN: 20123585 Boiler 2

Time: 07:37:50 AM

Date: 23/10/23

Fuel
NGAS

O ₂	5.6 %
CO	0 ppm
Eff	78.5 %
CO ₂	8.6 %
T-Stk	520 °F
T-Air	95.0 °F
EA	32.4 %
CO (15)	0 ppm
NO	80 ppm
NO ₂	0.0 ppm
NO _x	80 ppm
NO (15)	31 ppm
NO ₂ (15)	0 ppm
NO _x (15)	31 ppm
Flow	0.75 LPM

Comments:

EMISSION TEST COLLEGE

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O ₂		
CO		
Eff		
CO ₂		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO ₂		
NO _x		
SO ₂		
NO (15)		
NO _x (15)		
SO ₂ (15)		
Mega Watts		

Signature: _____

Date: 23 OCT 23	BLR 2	BLR 4
Start Test	6:49 AM	7:22 AM
Recorded Test	7:04 AM	7:37 AM
O ₂	3.7 %	5.6 %
CO	11 ppm	0 ppm
Eff	82.6 %	78.5 %
CO ₂	9.7 %	8.6 %
T-Stk	388 °F	520 °F
T-Air	75 °F	95 °F
EA	18.9 %	32.4 %
CO (15)	4 ppm	0 ppm
NO	56 ppm	80 ppm
NO ₂	4.5 ppm	0 ppm
NO _x	61 ppm	80 ppm
SO ₂		
NO (15)	19 ppm	31 ppm
NO _x (15)	21 ppm	31 ppm
SO ₂ (15)		
lbs per hour		

Signature: _____

RM TO THIS SHEET

NOTES AND THEN PRINT TEST RESULTS

NOTES AND THEN PRINT TEST RESULTS

07129

EMISSION TEST COLLE

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2		
CO		
Eff		
CO2		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO2		
NOX		
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature: _____

BLR 2

66KppH

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 09:37:59 AM

Date: 30/10/23

Fuel

NGAS

O2	3.4 %
CO	0 ppm
Eff	83.5 %
CO2	9.9 %
T-Stk	369 °F
T-Air	88.5 °F
EA	17.4 %
CO(15)	0 ppm
NO	17.2 ppm
NO2	0.0 ppm
NOx	17.2 ppm
NO(15)	6 ppm
NO2(15)	0 ppm
NOx(15)	6 ppm
Flow	0.76 LPM

BACHARACH

BACHARACH, INC.

PCA 400

SN: 20123585

Time: 09:07:19 AM

Date: 30/10/23

Fuel

NGAS

O2	5.7 %
CO	0 ppm
Eff	79.3 %
CO2	8.6 %
T-Stk	489 °F
T-Air	91.2 °F
EA	33.1 %
CO(15)	0 ppm
NO	9.7 ppm
NO2	0.0 ppm
NOx	9.7 ppm
NO(15)	4 ppm
NO2(15)	0 ppm
NOx(15)	4 ppm
Flow	0.80 LPM

Comments: _____

Date: 10/30/23	BLR 2	BLR 4
Start Test	0912	0842
Recorded Test	0937	0907
O2	3.4 %	5.7 %
CO	0 ppm	0 ppm
Eff	83.5 %	79.3 %
CO2	9.9 %	8.6 %
T-Stk	369 °F	489 °F
T-Air	88.5 °F	91.2 °F
EA	17.4 %	33.1 %
CO (15)	0	0 ppm
NO	17.2	9.7 ppm
NO2	0	0 ppm
NOX	17.2	9.7 ppm
SO2	XX	XX
NO (15)	6 ppm	4 ppm
NOX (15)	6 ppm	4 ppm
SO2 (15)	XX	XX
K lbs/hour	66KppH	33KppH

Signature: _____

RM TO THIS SHEET

TES AND THEN PRINT TEST RESULTS

TES AND THEN PRINT TEST RESULTS

CP-71501

EMISSION TEST

Date: 11/6/23	GT 1 DB
Start Test	10:50 AM
Recorded Test	10:55 AM
O2	14.5 %
CO	0 ppm
Eff	77.3 %
CO2	3.6 %
T-Stk	311 °F
T-Air	87.2 °F
EA	200.9 %
CO (15)	0 ppm
NO	17.0 ppm
NO2	3.0 ppm
NOX	20.0 ppm
SO2	xxx
NO (15)	16 ppm
NOX (15)	18 ppm
SO2 (15)	xxx
Mega Watts	8.7
KSCF/hour	36

Signature: _____

Date: 11/6/23	BLR 2
Start Test	10:28 AM
Recorded Test	10:43 AM
O2	4.9 %
CO	0 ppm
Eff	85.7 %
CO2	9.0 %
T-Stk	278 °F
T-Air	92.5 °F
EA	27.2 %
CO (15)	0 ppm
NO	55 ppm
NO2	1.6 ppm
NOX	57 ppm
SO2	xxx
NO (15)	20 ppm
NOX (15)	21 ppm
SO2 (15)	xxx
K lbs/hour	776

Signature: Tom Gutter

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 10:43:46 AM
Date: 06/11/23

Fuel
NGAS

O2 4.9 %
CO 0 ppm
Eff 85.7 %
CO2 9.0 %
T-Stk 278 °F
T-Air 92.5 °F
EA 27.2 %
CO (15) 0 ppm
NO 55 ppm
NO2 1.6 ppm
NOx 57 ppm
NO (15) 20 ppm
NO2 (15) 1 ppm
NOx (15) 21 ppm
Flow 0.76 LPM

Comments:

Boiler #2

GY

G

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 10:55:06 AM
Date: 06/11/23

Fuel
NGAS

O2 14.5 %
CO 0 ppm
Eff 77.3 %
CO2 3.6 %
T-Stk 311 °F
T-Air 87.2 °F
EA 200.9 %
CO (15) 0 ppm
NO 17.0 ppm
NO2 3.0 ppm
NOx 20.0 ppm
NO (15) 16 ppm
NO2 (15) 3 ppm
NOx (15) 18 ppm
Flow 0.77 LPM

Comments:

GT 1 DB

BLR

NOTES AND THEN PRINT TEST RESULTS

NOTES AND THEN PRINT TEST RESULTS

WHEN FINISHED, PRINT AND ATTACH TO THIS SHEET

EMISSION TEST

Date:	GT 1 DB
Start Test	05:50 PM
Recorded Test	05:55 PM
O2	13.6%
CO	1 ppm
Eff	78.6%
CO2	4.1%
T-Stk	309°F
T-Air	82.1°F
EA	165.0%
CO (15)	0 ppm
NO	20.7 ppm
NO2	2.4 ppm
NOX	23.1 ppm
SO2	xxx
NO (15)	17 ppm
NOX (15)	19 ppm
SO2 (15)	xxx
Mega Watts	8.3
KSCF/hour	50

Signature: _____

Date:	BLR 2
Start Test	05:29 pm
Recorded Test	05:44 PM
O2	5.0%
CO	0 ppm
Eff	86.0%
CO2	9.0%
T-Stk	257°F
T-Air	84.8°F
EA	28.1%
CO (15)	0 ppm
NO	61 ppm
NO2	1.0 ppm
NOX	62 ppm
SO2	xxx
NO (15)	23 ppm
NOX (15)	0 ppm
SO2 (15)	xxx
K lbs/hour	33

Signature: Dean Sutter

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 05:44:45 PM
Date: 13/11/23

Fuel
NGAS

O2	5.0 %
CO	0 ppm
Eff	86.0 %
CO2	9.0 %
T-Stk	257 °F
T-Air	84.8 °F
EA	28.1 %
CO (15)	0 ppm
NO	61 ppm
NO2	1.0 ppm
NOx	62 ppm
NO (15)	23 ppm
NO2 (15)	0 ppm
NOx (15)	23 ppm
Flow	0.70 LPM

Comments: Boiler #2

Y

GT2

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 05:55:06 PM
Date: 13/11/23

Fuel
NGAS

O2	13.6 %
CO	1 ppm
Eff	78.6 %
CO2	4.1 %
T-Stk	309 °F
T-Air	82.1 °F
EA	165.0 %
CO (15)	0 ppm
NO	20.7 ppm
NO2	2.4 ppm
NOx	23.1 ppm
NO (15)	17 ppm
NO2 (15)	2 ppm
NOx (15)	19 ppm
Flow	0.71 LPM

Comments: GT DB #1

BLR 2

S AND THEN PRINT TEST RESULTS

S AND THEN PRINT TEST RESULTS

O THIS SHEET

EMISSION TEST

Date: 11/20/23	GT 1 DB
Start Test	08:26AM
Recorded Test	08:31AM
O2	13.4 %
CO	2 ppm
Eff	78.7 %
CO2	4.3 %
T-Stk	311 °F
T-Air	80.0 °F
EA	157.4 %
CO (15)	1 ppm
NO	21.1 ppm
NO2	2.3 ppm
NOX	23.4 ppm
SO2	XXX
NO (15)	16 ppm
NOX (15)	18 ppm
SO2 (15)	XXX
Mega Watts	8.4
KSCF/hour	42

Signature:

Dan Smith

Date: 11/20/23	BLR 2
Start Test	07:50AM
Recorded Test	08:17AM
O2	3.5 %
CO	2 ppm
Eff	83.8 %
CO2	9.8 %
T-Stk	357 °F
T-Air	88.0 °F
EA	17.8 %
CO (15)	1 ppm
NO	57 ppm
NO2	2.4 ppm
NOX	60 ppm
SO2	XXX
NO (15)	19 ppm
NOX (15)	20 ppm
SO2 (15)	XXX
K lbs/hour	1618

Signature:

Dan Smith

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:17:55 AM
Date: 20/11/23

Fuel
NGAS

O2 3.5 %
CO 2 ppm
Eff 83.8 %
CO2 9.8 %
T-Stk 357 °F
T-Air 88.0 °F
EA 17.8 %
CO (15) 1 ppm
NO 57 ppm
NO2 2.4 ppm
NOx 60 ppm
NO (15) 19 ppm
NO2 (15) 1 ppm
NOx (15) 20 ppm
Flow 0.75 LPM

Comments:

BLR 2

Y

G

BACHARACH

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:31:32 AM
Date: 20/11/23

Fuel
NGAS

O2 13.4 %
CO 2 ppm
Eff 78.7 %
CO2 4.3 %
T-Stk 311 °F
T-Air 80.0 °F
EA 157.4 %
CO (15) 1 ppm
NO 21.1 ppm
NO2 2.3 ppm
NOx 23.4 ppm
NO (15) 16 ppm
NO2 (15) 2 ppm
NOx (15) 18 ppm
Flow 0.77 LPM

BLR 2

Comments:

GT 1 DB

) THEN PRINT TEST RESULTS

THEN PRINT TEST RESULTS

WHEN ENTERED

3 SHEET

EMISSION TEST COLLEGE

Date: 11/27/23	GT 1 DB	GT 2 DB
Start Test	Boiler 2 (2)	
Recorded Test		
O2	3.5%	
CO	3 ppm	
Eff	83.8%	
CO2	9.8%	
T-Stk	355°F	
T-Air	84.3°F	
EA	17.8%	
CO (15)	1 ppm	
NO	56 ppm	
NO2	3.3 ppm	
NOX	59 ppm	
SO2		
NO (15)	19 ppm	
NOX (15)	20 ppm	
SO2 (15)		
Mega Watts	8.3	
KSCF/hour	42	

Signature: 

Date: 11/27/23	BLR 4	BLR 4
Start Test	GT 1 (2)	
Recorded Test		
O2	13.2%	
CO	4 ppm	
Eff	78.5%	
CO2	4.3%	
T-Stk	304°F	
T-Air	66.0°F	
EA	153.4%	
CO (15)	3 ppm	
NO	22.3 ppm	
NO2	3.3 ppm	
NOX	26.6 ppm	
SO2		
NO (15)	17 ppm	
NOX (15)	20 ppm	
SO2 (15)		
K lbs/hour	64	

Signature: 

BACHARACH
BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:20:23 AM
Date: 27/11/23

Fuel
NGAS

O2 13.2 %
CO 4 ppm
Eff 78.5 %
CO2 4.3 %
T-Stk 304 °F
T-Air 66.0 °F
EA 153.4 %
CO (15) 3 ppm
NO 22.3 ppm
NO2 3.3 ppm
NOx 25.6 ppm
NO (15) 17 ppm
NO2 (15) 3 ppm
NOx (15) 20 ppm
Flow 0.75 LPM

BACHARACH
BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:19:02 AM
Date: 27/11/23

Fuel
NGAS

O2 3.5 %
CO 3 ppm
Eff 83.8 %
CO2 9.8 %
T-Stk 355 °F
T-Air 84.3 °F
EA 17.8 %
CO (15) 1 ppm
NO 56 ppm
NO2 3.3 ppm
NOx 59 ppm
NO (15) 19 ppm
NO2 (15) 1 ppm
NOx (15) 20 ppm
Flow 0.72 LPM

ments:

Comments:

MTD THIS SHEET
UTES AND THEN PRINT TEST RESULTS
AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date: 12/4/23	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				

Signature: Don Sutter

Date: 12/4/23	BLR 2	BLR 4
Start Test	09:01	09:26
Recorded Test	09:23	09:45
O2	8.4 %	6.9 %
CO	3ppm	0ppm
Eff	85.4 %	79.8 %
CO2	7.0 %	7.9 %
T-Stk	251°F	462°F
T-Air	91.4°F	107.1°F
EA	60.0 %	43.9 %
CO (15)	xxx	xxx
NO	23.5 ppm	42.7 ppm
NO2	1.9 ppm	0.0 ppm
NOX	25.4 ppm	42.7 ppm
SO2	xxx	xxx
NO (15)	11 ppm	18 ppm
NOX (15)	12 ppm	18 ppm
SO2 (15)		
lbs per hour		

Signature: Don Sutter

BACHARACH

BACHARACH, INC.
PCA 400
SN: 22043113

Time: 09:23:55
Date: 04/12/23

Fuel
NGAS

O2 8.4 %
CO 3 ppm
Eff 85.4 %
CO2 7.0 %
T-Stk 251 °F
T-Air 91.4 °F
EA 60.0 %
CO (0) 6 ppm
NO 23.5 ppm
NO2 1.9 ppm
NOx 25.4 ppm
NO (15) 11 ppm
NO2 (15) 1 ppm
NOx (15) 12 ppm
Flow 0.77 LPM

Comments:

BLR #2

WHEN FINISHED TESTIN

GT: RECORD TIME PROBE IS INSERTED (Start)

Boiler: RECORD TIME PROBE IS INSERTED (Sta

BACHARACH

BACHARACH, INC.
PCA 400
SN: 22043113

Time: 09:45:43
Date: 04/12/23

Fuel
NGAS

O2 6.9 %
CO 0 ppm
Eff 79.8 %
CO2 7.9 %
T-Stk 462 °F
T-Air 107.1 °F
EA 43.9 %
CO (0) 0 ppm
NO 42.7 ppm
NO2 0.0 ppm
NOx 42.7 ppm
NO (15) 18 ppm
NO2 (15) 0 ppm
NOx (15) 18 ppm
Flow 0.81 LPM

Comments:

BLR #4

EMISSION TEST COLLEGE



BACHARACH, INC.
PCA 400
SN: 20123585

BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:03:39 AM
Date: 11/12/23

Time: 09:34:03 AM
Date: 11/12/23

Fuel
Oil 2

Fuel
Oil 2

O₂ 3.5 %
CO 1 ppm
Eff 86.4 %
CO₂ 13.0 %
T-Stk 417 °F
T-Air 85.7 °F
EA 18.5 %
CO (15) 0 ppm
NO 27.4 ppm
NO₂ 0.0 ppm
NO_x 27.4 ppm
NO (15) 9 ppm
NO₂ (15) 0 ppm
NO_x (15) 9 ppm
Flow 0.88 LPM

O₂ 5.2 %
CO 0 ppm
Eff 81.7 %
CO₂ 11.7 %
T-Stk 602 °F
T-Air 111.9 °F
EA 30.7 %
CO (15) 0 ppm
NO 35.5 ppm
NO₂ 0.0 ppm
NO_x 35.5 ppm
NO (15) 13 ppm
NO₂ (15) 0 ppm
NO_x (15) 13 ppm
Flow 0.90 LPM

nature:

Comments:

Comments:

O THIS SHEET

AND THEN PRINT TEST RESULTS

ES AND THEN PRINT TEST RESULTS

Date:	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O ₂		
CO		
Eff		
CO ₂		
T-Stk		
T-Air		
EA		
CO (15)		
NO		
NO ₂		
NO _x		
SO ₂		
NO (15)		
NO _x (15)		
SO ₂ (15)		
Mega Watts		
KSCF/hour		

Date:	BLR 2	BLR 4
Start Test	8:48AM	9:19AM
Recorded Test	9:03AM	9:34AM
O ₂	3.5%	5.2%
CO	1 ppm	0 ppm
Eff	86.4%	81.7%
CO ₂	13%	11.7%
T-Stk	417 °F	602 °F
T-Air	85.7 °F	111.9 °F
EA	18.5%	30.7%
CO (15)	0 ppm	0 ppm
NO	27.4 ppm	35.5 ppm
NO ₂	0.0 ppm	0.0 ppm
NO _x	27.4 ppm	35.5 ppm
SO ₂		
NO (15)	9 ppm	13 ppm
NO _x (15)	9 ppm	13 ppm
SO ₂ (15)		
lbs/hour		

Signature:

EMISSION TEST COLLE

Date: 18 DEC 23	GT 1 DB	GT 2 DB
Start Test	8:09AM	
Recorded Test	8:14AM	
O2	13.7%	
CO	0 ppm	
Eff	76.9%	
CO2	4.1%	
T-Stk	319°F	
T-Air	64.4°F	
EA	168.5%	
CO (15)	0 ppm	
NO	13.1 ppm	
NO2	0 ppm	
NOX	13.1 ppm	
SO2		
NO (15)	11 ppm	
NOX (15)	11 ppm	
SO2 (15)		
Mega Watts		
KSCF/hour		

Signature: _____

Comments: _____

Date: 18 DEC 23	BLR 2	BLR 4
Start Test	9:09AM	8:28AM
Recorded Test	9:24AM	8:43AM
O2	4.4%	6.6%
CO	0 ppm	0 ppm
Eff	85.0%	79.8%
CO2	9.3%	8.1%
T-Stk	316°F	465°F
T-Air	99.7°F	104°F
EA	23.5%	41.0%
CO (15)	0 ppm	0 ppm
NO	16.2 ppm	14.6 ppm
NO2	0 ppm	0 ppm
NOX	16.2 ppm	14.6 ppm
SO2		
NO (15)	6 ppm	6 ppm
NOX (15)	6 ppm	6 ppm
SO2 (15)		
K lbs/hour		

Signature: _____



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 08:43:17 AM
Date: 18/12/23

Fuel
NGAS

O2 6.6 %
CO 0 ppm
Eff 79.8 %
CO2 8.1 %
T-Stk 465 °F
T-Air 104.0 °F
EA 41.0 %
CO(15) 0 ppm
NO 14.6 ppm
NO2 0.0 ppm
NOx 14.6 ppm
NO(15) 6 ppm
NO2(15) 0 ppm
NOx(15) 6 ppm
Flow 0.73 LPM



BACHARACH, INC.
PCA 400
SN: 20123585

Time: 09:24:39 AM
Date: 18/12/23

Fuel BOILER 2
NGAS

O2 4.4 %
CO 0 ppm
Eff 85.0 %
CO2 9.3 %
T-Stk 316 °F
T-Air 99.7 °F
EA 23.5 %
CO(15) 0 ppm
NO 16.2 ppm
NO2 0.0 ppm
NOx 16.2 ppm
NO(15) 6 ppm
NO2(15) 0 ppm
NOx(15) 6 ppm
Flow 0.82 LPM

Comments: _____

PCA 400
SN: 20123585

Time: 08:14:56 AM
Date: 18/12/23

GT 1 Fuel
NGAS

O2 13.7 %
CO 0 ppm
Eff 76.9 %
CO2 4.1 %
T-Stk 319 °F
T-Air 64.4 °F
EA 168.5 %
CO(15) 0 ppm
NO 13.1 ppm
NO2 0.0 ppm
NOx 13.1 ppm
NO(15) 11 ppm
NO2(15) 0 ppm
NOx(15) 11 ppm
Flow 0.75 LPM

Comments: _____

EMISSION TEST COLLEGE

Date: 25 DEC 23	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2	13.7 %	
CO	2 ppm	
Eff	76.6 %	
CO2	4.0 %	
T-Stk	330 °F	
T-Air	71.9 °F	
EA	170.4 %	
CO (15)	7 ppm	
NO	19.5 ppm	
NO2	3.1 ppm	
NOX	22.6 ppm	
SO2		
NO (15)	16 ppm	
NOX (15)	19 ppm	
SO2 (15)		
Mega Watts		

Signature: _____

Date: 25 DEC 23	BLR 2	BLR 4
Start Test		
Recorded Test		
O2	4.9 %	16.6 %
CO	0 ppm	0 ppm
Eff	85.9 %	
CO2	9.0 %	
T-Stk	283 °F	497 °F
T-Air	106.7 °F	111.2 °F
EA	27.3 %	
CO (15)	0 ppm	
NO	58 ppm	69 ppm
NO2	0 ppm	0 ppm
NOX	58 ppm	69 ppm
SO2		
NO (15)	21 ppm	
NOX (15)	21 ppm	
SO2 (15)		
lbs per hour		

Signature: _____

BACHARACH

BACHARACH, INC.
PCA 400
SN: 22043113

HRSG 1

Time: 06:47:18 AM
Date: 12/25/23

Fuel
NGAS

O2 13.7 %
CO 2 ppm
Eff 76.6 %
CO2 4.0 %
T-Stk 330 °F
T-Air 71.9 °F
EA 170.4 %
CO (0) 7 ppm
NO 19.5 ppm
NO2 3.1 ppm
NOx 22.6 ppm
NO (15) 16 ppm
NO2 (15) 3 ppm
NOx (15) 19 ppm
Flow 0.77 LPM

Comments: _____

BACHARACH

BACHARACH, INC.
PCA 400
SN: 22043113

Time: 08:27:44 AM
Date: 12/25/23

Fuel
NGAS

B2

O2 4.9 %
CO 0 ppm
Eff 85.9 %
CO2 9.0 %
T-Stk 283 °F
T-Air 106.7 °F
EA 27.3 %
CO (0) 0 ppm
NO 58 ppm
NO2 0.0 ppm
NOx 58 ppm
NO (15) 21 ppm
NO2 (15) 0 ppm
NOx (15) 21 ppm
Flow 0.76 LPM

Comments: _____

BACHARACH

BACHARACH, INC.
PCA 400
SN: 22043113

Time: 07:23:19 AM
Date: 12/25/23

Fuel
NGAS

B4

O2 16.6 %
CO 0 ppm
Eff --- %
CO2 --- %
T-Stk 497 °F
T-Air 111.2 °F
EA --- %
CO (0) --- ppm
NO 69 ppm
NO2 0.0 ppm
NOx 69 ppm
NO (15) --- ppm
NO2 (15) --- ppm
NOx (15) --- ppm
Flow 0.78 LPM

Comments: _____

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	730.70	0.00	89507.96	0.00		678,850,000	0	694,905	0	0.0448	0.0000	0.0448	5.4152	0.0000	5.4152	0.1343	0.0000	0.1343	0.2685	0.0000	0.2685	0.2193	0.0000	0.2193	0.2193	0.0000	0.2193
Turbine 2	0.00	0.00	0.00	0.00		279,990,000	0	286,612	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Duct Burner 1	725.20		31958.35			172,570,000		176,651		0.0862		0.0862	0.2077		0.2077	0.1598		0.1598	0.0094		0.0094	0.0314		0.0314	0.0314		0.0314
Duct Burner 2	0.00		0.00			48,120,000		49,258		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000
Boiler 2*	626.40	2.10	28457.47	131.88						0.0070	0.0000	0.0070	1.2806	0.0106	1.2911	0.0569	0.0001	0.0570	0.0270	0.0005	0.0276	0.0155	0.0002	0.0157	0.0155	0.0002	0.0157
Boiler 4	686.70	2.10	5874.97	94.96						0.0014	0.0000	0.0015	0.3231	0.0066	0.3298	0.0029	0.0000	0.0030	0.0056	0.0004	0.0060	0.0088	0.0001	0.0089	0.0088	0.0001	0.0089
Emerg. Gen.		0.00		0.00	0.0						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Mobile Boiler*	0.00	0.00	0.00	0.00						0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Emissions Total										0.1393	0.0001	0.1394	7.2267	0.0172	7.2439	0.3539	0.0001	0.3540	0.3105	0.0009	0.3114	0.2749	0.0003	0.2752	0.2749	0.0003	0.2752

*Please note that in late January it was discovered that the natural gas supply flow meters for Boiler #2 and the mobile boiler were found to be malfunctioning. The replacement parts were ordered and the new flow meter was installed on the Mobile Boiler in February. The Mobile Boiler meter was determined to be functioning properly in March. To estimate the natural gas fuel usage for Boiler #2, we subtracted the sum of the other natural gas units' usage for the month from the building's total natural gas usage for the month.

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		1.42	79.17	5.38	3.40	3.45	3.45
		OK	OK	OK	OK	OK	OK

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	648.00	0.00	79568.31	0.00		756,580,000	0	774,473	0	0.0398	0.0000	0.0398	4.8139	0.0000	4.8139	0.1194	0.0000	0.1194	0.2387	0.0000	0.2387	0.1949	0.0000	0.1949	0.1949	0.0000	0.1949
Turbine 2	0.00	0.00	0.00	0.00		217,420,000	0	222,562	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Duct Burner 1	646.50		28273.21			200,190,000		204,924		0.0762		0.0762	0.1838		0.1838	0.1414		0.1414	0.0083		0.0083	0.0277		0.0277	0.0277		0.0277
Duct Burner 2	0.00		0.00			27,820,000		28,478		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000		0.0000	0.0000		0.0000	
Boiler 2*	517.60	0.00	87931.54	0.00						0.0215	0.0000	0.0215	3.9569	0.0000	3.9569	0.1759	0.0000	0.1759	0.0835	0.0000	0.0835	0.0479	0.0000	0.0479	0.0479	0.0000	0.0479
Boiler 4	377.50	0.00	8547.48	0.00						0.0021	0.0000	0.0021	0.4701	0.0000	0.4701	0.0042	0.0000	0.0042	0.0081	0.0000	0.0081	0.0128	0.0000	0.0128	0.0128	0.0000	0.0128
Emerg. Gen.		0.00		0.000	0.0						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Mobile Boiler*	425.20	0.00	311496.70	0.00						0.6230	0.0000	0.6230	5.6069	0.0000	5.6069	5.8406	0.0000	5.8406	0.0934	0.0000	0.0934	1.6491	0.0000	1.6491	1.6491	0.0000	1.6491
Emissions Total										0.7626	0.0000	0.7626	15.0316	0.0000	15.0316	6.2814	0.0000	6.2814	0.4321	0.0000	0.4321	1.9325	0.0000	1.9325	1.9325	0.0000	1.9325

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		2.05	88.00	11.03	3.59	5.18	5.18
		OK	OK	OK	OK	OK	OK

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage (mmBtu/month)		Year-to-Date Operating Hours (hrs/yr)	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
										tons/month			tons/month			tons/month			tons/month			tons/month			tons/month		
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	592.90	0.00	70723.98	0.00		825,670,000	0	845,197	0	0.0354	0.0000	0.0354	4.2788	0.0000	4.2788	0.1061	0.0000	0.1061	0.2122	0.0000	0.2122	0.1733	0.0000	0.1733	0.1733	0.0000	0.1733
Turbine 2	0.00	0.00	0.00	0.00		129,770,000	0	132,839	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Duct Burner 1	428.40		18691.85			218,450,000		223,616		0.0504		0.0504	0.1215		0.1215	0.0935		0.0935	0.0055		0.0055	0.0183		0.0183	0.0183		0.0183
Duct Burner 2	0.00		0.00			12,460,000		12,755		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000
Boiler 2*	569.20	0.00	59792.42	0.00						0.0146	0.0000	0.0146	2.6907	0.0000	2.6907	0.1196	0.0000	0.1196	0.0568	0.0000	0.0568	0.0326	0.0000	0.0326	0.0326	0.0000	0.0326
Boiler 4	488.60	0.00	19121.78	0.00						0.0047	0.0000	0.0047	1.0517	0.0000	1.0517	0.0095	0.0000	0.0095	0.0182	0.0000	0.0182	0.0286	0.0000	0.0286	0.0286	0.0000	0.0286
Emerg. Gen.		0.30		2.329	0.3						0.0001	0.0001		0.0037	0.0037		0.0010	0.0010		0.0000	0.0000		0.0001	0.0001		0.0001	0.0001
Mobile Boiler	394.60	0.00	6202.30	0.00						0.0124	0.0000	0.0124	0.1116	0.0000	0.1116	0.1163	0.0000	0.1163	0.0019	0.0000	0.0019	0.0328	0.0000	0.0328	0.0328	0.0000	0.0328
Emissions Total										0.1175	0.0001	0.1176	8.2543	0.0037	8.2580	0.4449	0.0010	0.4459	0.2945	0.0000	0.2945	0.2856	0.0001	0.2857	0.2856	0.0001	0.2857

Title V 12 Month Rolling Emission Totals		VOC	NOx	CO	SO ₂	PM ₁₀	PM
All Power Plant Equipment (combined)		tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Limit		19.8	177	130	33.5	19	18.7
Actual		2.02	89.83	10.65	3.60	5.24	5.24
		OK	OK	OK	OK	OK	OK

BACHARACH, INC.

PCA 400

SN: 22043113

EMISSION TEST COLLEC

Date: 1 JAN 24	GT 1 DB	GT 2 DB
Start Test	7:44 AM	
Recorded Test	7:59 AM	
O2	19.8 %	
CO	0 ppm	
Eff		
CO2		
T-Stk	309 °F	
T-Air	70.7 °F	
EA		
CO (15)		
NO	24 ppm	
NO2	1.8 ppm	
NOX	25.7 ppm	
SO2		
NO (15)		
NOX (15)		
SO2 (15)		
Mega Watts		

Time: 07:10:10 AM

Date: 01/01/24

Fuel
NGAS

O2 8.9 %
CO 0 ppm
Eff 77.3 %
CO2 6.8 %
T-Stk 487 °F
T-Air 105.6 °F
EA 66.5 %
CO (0) 0 ppm
NO 34.8 ppm
NO2 0.0 ppm
NOx 34.8 ppm
NO (15) 17 ppm
NO2 (15) 0 ppm
NOx (15) 17 ppm
Flow 0.77 LPM

Comments:

Signature:

Date: 1 JAN 24	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	7:16 AM	6:55 AM		
Recorded Test	7:31 AM	7:10 AM		
O2	16.7 %	8.9 %		
CO	0 ppm	0 ppm		
Eff	84.7 %	77.3 %		
CO2	8.0 %	16.8 %		
T-Stk	302 °F	487 °F		
T-Air	102.9 °F	105.6 °F		
EA	42.4 %	66.5 %		
CO (15)	0 ppm	0 ppm		
NO	50 ppm	34.8 ppm		
NO2	0 ppm	0 ppm		
NOX	50 ppm	34.8 ppm		
SO2				
NO (15)	21 ppm	17 ppm		
NOX (15)	21 ppm	17 ppm		
SO2 (15)				
lbs per hour				

Signature:

BACHARACH, INC.

PCA 400

SN: 22043113

Time: 07:31:07 AM

Date: 01/01/24

Fuel
NGAS

O2 6.7 %
CO 0 ppm
Eff 84.7 %
CO2 8.0 %
T-Stk 302 °F
T-Air 102.9 °F
EA 42.4 %
CO (0) 0 ppm
NO 50 ppm
NO2 0.0 ppm
NOx 50 ppm
NO (15) 21 ppm
NO2 (15) 0 ppm
NOx (15) 21 ppm
Flow 0.75 LPM

Time: 07:59:49 AM

Date: 01/01/24

Fuel
NGAS

O2 19.8 %
CO 0 ppm
Eff --- %
CO2 --- %
T-Stk 309 °F
T-Air 70.7 °F
EA --- %
CO (0) --- ppm
NO 24.0 ppm
NO2 1.8 ppm
NOx 25.7 ppm
NO (15) --- ppm
NO2 (15) --- ppm
NOx (15) --- ppm
Flow 0.72 LPM

Comments:

EMISSION TEST COLLEGE P

Date: 5 JAN 24	GT 1 DB	GT 2 DB
Start Test	12:10 PM	
Recorded Test	12:25 PM	
O2	14.3 %	
CO	1 PPM	
Eff	76.5 %	
CO2	3.7 %	
T-Stk	306 °F	
T-Air	63.9 °F	
EA	193.3 %	
CO (15)	***	
NO	11.5 PPM	
NO2	0.0 PPM	
NOX	11.5 PPM	
SO2	***	
NO (15)	10 PPM	
NOX (15)	10 PPM	
SO2 (15)	***	
Mega Watts		

Signature: _____

Date: 5 JAN 24	BLR 2	BLR 4
Start Test	10:34	9:58
Recorded Test	10:49 AM	10:13 AM
O2	3.6 %	14.7 %
CO	0 PPM	5 PPM
Eff	84.7 %	74 %
CO2	9.7 %	3.5 %
T-Stk	332 °F	335 °F
T-Air	96.6 °F	66.5 °F
EA	18.7 %	211.2 %
CO (15)	***	***
NO	39.8 PPM	17.1 PPM
NO2	0 PPM	3.5 PPM
NOX	39.8 PPM	20.6 PPM
SO2	***	***
NO (15)	14 PPM	16 PPM
NOX (15)	14 PPM	20 PPM
SO2 (15)	***	***
lbs per hour		

Signature: _____

BACHARACH, INC.

PCA 400

SN: 22043113

GT1

Time: 12:25:39 PM

Date: 01/05/24

Fuel

NGAS

O2	14.3 %
CO	1 ppm
Eff	76.5 %
CO2	3.7 %
T-Stk	306 °F
T-Air	63.9 °F
EA	193.3 %
CO (O)	2 ppm
NO	11.5 ppm
NO2	0.0 ppm
NOx	11.5 ppm
NO (15)	10 ppm
NO2 (15)	0 ppm
NOx (15)	10 ppm
Flow	0.68 LPM

Comments: _____

GT1/7

Quarterly

BACHARACH, INC.

PCA 400

SN: 22043113

Time: 10:49:12 AM

Date: 01/05/24

Fuel

NGAS

O2	5.5 %
CO	0 ppm
Eff	78.2 %
CO2	8.7 %
T-Stk	545 °F
T-Air	106.1 °F
EA	31.4 %
CO (O)	0 ppm
NO	83 ppm
NO2	0.0 ppm
NOx	83 ppm
NO (15)	32 ppm
NO2 (15)	0 ppm
NOx (15)	32 ppm
Flow	0.82 LPM

BACHARACH

BACHARACH, INC.

PCA 400

SN: 22043113

Time: 10:13:21 AM

Date: 01/05/24

Fuel

NGAS

O2	14.7 %
CO	5 ppm
Eff	74.0 %
CO2	3.5 %
T-Stk	335 °F
T-Air	66.5 °F
EA	211.2 %
CO (O)	17 ppm
NO	17.1 ppm
NO2	3.5 ppm
NOx	20.6 ppm
NO (15)	16 ppm
NO2 (15)	3 ppm
NOx (15)	20 ppm
Flow	0.74 LPM

Comments: _____

Quarterly



BACHARACH, INC.

PCA 400

SN: 18041087

EMISSION TEST COLLEGE

Date: 8 JAN 24	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2	13.9	
CO	2	
Eff	73	
CO2	3.9	
T-Stk	376	
T-Air	65.7	
EA	177	
CO (15)		
NO	19.8	
NO2	2.5	
NOX	22.3	
SO2		
NO (15)	17	
NOX (15)	19	
SO2 (15)		
Mega Watts		

Signature: _____

Time: 19:46:15

Date: 01/08/24

Fuel
NGAS

GTT

O₂ 13.9 %
 CO 2 ppm
 Eff 73.3 %
 CO₂ 3.9 %
 T-Stk 376 °F
 T-Air 65.7 °F
 EA 177.9 %
 CO(0) 7 ppm
 NO 19.8 ppm
 NO₂ 2.5 ppm
 NO_x 22.3 ppm
 NO(15) 17 ppm
 NO₂(15) 2 ppm
 NO_x(15) 19 ppm
 Flow 0.81 LPM

Comments: _____



BACHARACH, INC.

PCA 400

SN: 18041087

Time: 20:10:24

Date: 01/08/24

Fuel
NGAS

O₂ 4.4 %
 CO 0 ppm
 Eff 84.4 %
 CO₂ 9.3 %
 T-Stk 325 °F
 T-Air 88.1 °F
 EA 23.7 %
 CO(0) 0 ppm
 NO 61 ppm
 NO₂ 1.2 ppm
 NO_x 62 ppm
 NO(15) 22 ppm
 NO₂(15) 0 ppm
 NO_x(15) 22 ppm
 Flow 0.79 LPM

Comments: _____

Date: 8 JAN 24	BLR 2	BLR 4
Start Test		
Recorded Test		
O2	4.4	5.7
CO	0	0
Eff	84.4	79.1
CO2	9.3	8.6
T-Stk	325	514
T-Air	88.1	111
EA	23.7	33.5
CO (15)		
NO	61	75
NO2	1.2	0.0
NOX	62	75
SO2		
NO (15)	22	29
NOX (15)	22	29
SO2 (15)		
lbs per hour		

Signature: _____



BACHARACH, INC.

PCA 400

SN: 18041087

Time: 20:35:36

Date: 01/08/24

Fuel
NGAS

O₂ 5.7 %
 CO 0 ppm
 Eff 79.1 %
 CO₂ 8.6 %
 T-Stk 514 °F
 T-Air 111.8 °F
 EA 33.5 %
 CO(0) 0 ppm
 NO 75 ppm
 NO₂ 0.0 ppm
 NO_x 75 ppm
 NO(15) 29 ppm
 NO₂(15) 0 ppm
 NO_x(15) 29 ppm
 Flow 0.80 LPM

Comments: _____

EMISSION TEST COLLEGE P

Date: 1/15/24	GT 1 DB	GT 2 DB
Start Test	10:42	
Recorded Test	10:47	
O2	13.6%	
CO	0ppm	
Eff	75.8%	
CO2	4.1%	
T-Stk	365°F	
T-Air	88.7°F	
EA	166.9%	
CO (15)	xxx	
NO	31.1ppm	
NO2	1.7ppm	
NOX	32.9ppm	
SO2	xxx	
NO (15)	25ppm	
NOX (15)	27ppm	
SO2 (15)	xxx	
Mega Watts	8.3	

Signature: Darren Spitzer

Date: 1/15/24	BLR 2	BLR 4
Start Test	09:45	10:01
Recorded Test	10:01	10:35
O2	3.8%	5.1%
CO	4ppm	0ppm
Eff	84.2%	76.2%
CO2	9.6%	8.9%
T-Stk	338°F	628°F
T-Air	85.4°F	111.3°F
EA	19.9%	28.6%
CO (15)	xxx	xxx
NO	59ppm	96ppm
NO2	2.9ppm	0.0ppm
NOX	61ppm	96ppm
SO2	xxx	xxx
NO (15)	20ppm	36ppm
NOX (15)	21ppm	36ppm
SO2 (15)	xxx	xxx
lbs per hour		

Signature: Darren Spitzer

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 10:47:18
Date: 01/15/24

Fuel
NGAS

O2 13.6 %
CO 0 ppm
Eff 75.8 %
CO2 4.1 %
T-Stk 365 °F
T-Air 88.7 °F
EA 166.9 %
CO(0) 0 ppm
NO 31.1 ppm
NO2 1.7 ppm
NOx 32.9 ppm
NO (15) 25 ppm
NO2 (15) 1 ppm
NOx (15) 27 ppm
Flow 0.80 LPM

Cal 925 Flow
8.3 MW
Comments: 90k steam flow
DB

HRSTG #1

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 10:01:39
Date: 01/15/24

Fuel
NGAS

O2 3.8 %
CO 4 ppm
Eff 84.2 %
CO2 9.6 %
T-Stk 338 °F
T-Air 85.4 °F
EA 19.9 %
CO(0) 5 ppm
NO 59 ppm
NO2 2.9 ppm
NOx 61 ppm
NO (15) 20 ppm
NO2 (15) 1 ppm
NOx (15) 21 ppm
Flow 0.79 LPM

Steam Flow - 49

Comments:

BLR #2

SN: 18041087

Time: 10:35:05
Date: 01/15/24

Fuel
NGAS

O2 5.1 %
CO 0 ppm
Eff 76.2 %
CO2 8.9 %
T-Stk 628 °F
T-Air 111.3 °F
EA 28.6 %
CO(0) 0 ppm
NO 96 ppm
NO2 0.0 ppm
NOx 96 ppm
NO (15) 36 ppm
NO2 (15) 0 ppm
NOx (15) 36 ppm
Flow 0.79 LPM

Steam Flow 53

Comments:

BLR #4

EMISSION TEST COLLEGE 1

Date: 1/22/24	GT 1 DB	GT 2 DB
Start Test	09:19	
Recorded Test	09:26	
O2	13.8%	
CO	2ppm	
Eff	73.6%	
CO2	4.0%	
T-Stk	373°F	
T-Air	63.3°F	
EA	173.2%	
CO (15)	xxx	
NO	19.7ppm	
NO2	2.7ppm	
NOX	22.5ppm	
SO2	xxx	
NO (15)	16ppm	
NOX (15)	19ppm	
SO2 (15)	xxx	
Mega Watts	8.3	
KSCF/hour		

Signature:

[Signature]

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 09:47:00
Date: 01/22/24

Fuel
NGAS

O2 3.8 %
CO 0 ppm
Eff 83.8 %
CO2 9.7 %
T-Stk 343 °F
T-Air 76.6 °F
EA 19.6 %
CO (0) 0 ppm
NO 62 ppm
NO2 3.3 ppm
NOx 65 ppm
NO (15) 21 ppm
NO2 (15) 1 ppm
NOx (15) 22 ppm
Flow 0.79 LPM

Steam flow 53 kpph

Comments:

BLR #2

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 09:26:17
Date: 01/22/24

Fuel
NGAS

O2 13.8 %
CO 2 ppm
Eff 73.6 %
CO2 4.0 %
T-Stk 373 °F
T-Air 63.3 °F
EA 173.2 %
CO (0) 7 ppm
NO 19.7 ppm
NO2 2.7 ppm
NOx 22.5 ppm
NO (15) 16 ppm
NO2 (15) 2 ppm
NOx (15) 19 ppm
Flow 0.80 LPM

MW- 8.3

Comments:

GT 1 HESTG DB

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 10:05:31
Date: 01/22/24

Fuel
NGAS

O2 6.3 %
CO 0 ppm
Eff 79.6 %
CO2 8.3 %
T-Stk 466 °F
T-Air 92.9 °F
EA 38.1 %
CO (0) 0 ppm
NO 65 ppm
NO2 0.0 ppm
NOx 65 ppm
NO (15) 26 ppm
NO2 (15) 0 ppm
NOx (15) 26 ppm
Flow 0.79 LPM

Steam flow - 28 kpph

Comments:

BLR #4

Date: 1/22/24	BLR 2	BLR 4
Start Test	09:30	09:45
Recorded Test	09:47	10:05
O2	3.8%	6.3%
CO	0ppm	0ppm
Eff	83.8%	79.6%
CO2	9.7%	8.3%
T-Stk	343°F	466°F
T-Air	76.6°F	92.9°F
EA	19.6%	38.1%
CO (15)	xxx	xxx
NO	62ppm	65ppm
NO2	3.3ppm	0.0ppm
NOX	65ppm	65ppm
SO2	xxx	xxx
NO (15)	21ppm	26ppm
NOX (15)	22ppm	26ppm
SO2 (15)	xxx	xxx
K lbs/hour		

Signature:

[Signature]

EMISSION TEST COLLEGE P

BACHARACH, INC.
PCA 400
SN: 18041087

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 09:16:03
Date: 01/29/24

Fuel
NGAS

Time: 08:52:50
Date: 01/29/24

Fuel
NGAS

O₂ 4.9 %
CO 0 ppm
Eff 75.4 %
CO₂ 9.0 %
T-Stk 654 °F
T-Air 101.7 °F
EA 27.2 %
CO (0) 0 ppm
NO 91 ppm
NO₂ 0.0 ppm
NO_x 91 ppm
NO (15) 34 ppm
NO₂ (15) 0 ppm
NO_x (15) 34 ppm
Flow 0.80 LPM

STEAM FLOW - 65 kpph

Comments:

BLR #4

NOTES AND THEN PRINT TEST RESULTS

UTES AND THEN PRINT TEST RESULTS

IM TO THIS SHEET

Date: 1/29/24	GT 1 DB	GT 2 DB
Start Test	0846	
Recorded Test	0852	
O ₂	13.4 %	
CO	3 ppm	
Eff	75.0 %	
CO ₂	4.2 %	
T-Stk	367 °F	
T-Air	67.3 °F	
EA	159.3 °F	
CO (15)	xxx	
NO	21.3 ppm	
NO ₂	2.6 ppm	
NO _x	23.9 ppm	
SO ₂	xxx	
NO (15)	17 ppm	
NO _x (15)	19 ppm	
SO ₂ (15)	xxx	
Mega Watts	7.8	
KSCF/hour		

Signature:

Travis Gutter

O₂ 13.4 %
CO 3 ppm
Eff 75.0 %
CO₂ 4.2 %
T-Stk 367 °F
T-Air 67.3 °F
EA 159.3 %
CO (0) 9 ppm
NO 21.3 ppm
NO₂ 2.6 ppm
NO_x 23.9 ppm
NO (15) 17 ppm
NO₂ (15) 2 ppm
NO_x (15) 19 ppm
Flow 0.80 LPM

MW-7.8

gas-5050

Comments:

HRSTG
GT 1 DB

Date: 1/29/24	BLR 2	BLR 4
Start Test		0850
Recorded Test		0916
O ₂		4.9 %
CO		0 ppm
Eff		75.4 %
CO ₂		9.0 %
T-Stk		654 °F
T-Air		101.7 °F
EA		27.2 %
CO (15)		xxx
NO		91 ppm
NO ₂		0.0 ppm
NO _x		91 ppm
SO ₂		xxx
NO (15)		34 ppm
NO _x (15)		34 ppm
SO ₂ (15)		xxx
K lbs/hour		

Signature:

Travis Gutter

EMISSION TEST COLLEGE P



Date: 5 FEB 24	GT 1 DB	GT 2 DB
Start Test		
Recorded Test		
O2	14	
CO	3	
Eff	76	
CO2	4.6	
T-Stk	364	
T-Air	58.5	
EA	182.6	
CO (15)		
NO	20.4	
NO2	1.9	
NOX	22.3	
SO2		
NO (15)	17	
NOX (15)	19	
SO2 (15)		
Mega Watts		
KSCF/hour		

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 07:42:11
Date: 02/05/24

Fuel
PROP

HRSG 1

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 08:26:19
Date: 02/05/24 BOILER 12

Fuel
PROP

O2 14.0 %
CO 3 ppm
Eff 76.3 %
CO2 4.6 %
T-Stk 364 °F
T-Air 58.5 °F
EA 182.6 %
CO (0) 8 ppm
NO 20.4 ppm
NO2 1.9 ppm
NOx 22.3 ppm
NO (15) 17 ppm
NO2 (15) 2 ppm
NOx (15) 19 ppm
Flow 0.79 LPM

O2 3.6 %
CO 6 ppm
Eff 85.2 %
CO2 11.4 %
T-Stk 386 °F
T-Air 83.9 °F
EA 18.7 %
CO (0) 7 ppm
NO 58 ppm
NO2 2.4 ppm
NOx 61 ppm
NO (15) 20 ppm
NO2 (15) 1 ppm
NOx (15) 21 ppm
Flow 0.78 LPM

Signature:

[Signature]

Comments:

Comments:

Date: 5 FEB 24	BLR 2	BLR 4
Start Test		
Recorded Test		
O2	3.6	
CO	6	
Eff	85.2	
CO2	11.4	
T-Stk	386	
T-Air	83.9	
EA	18.7	
CO (15)		
NO	58	
NO2	2.4	
NOX	61	
SO2		
NO (15)	20	
NOX (15)	21	
SO2 (15)		
K lbs/hour		

Signature:

[Signature]

TES AND THEN PRINT TEST RESULTS

TES AND THEN PRINT TEST RESULTS

TO THIS SHEET

EMISSION TEST COLLEGE

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 07:56:13
Date: 02/12/24

Fuel
PROP

B2

Time: 07:20:10
Date: 02/12/24

Fuel
PROP

HRSG1

O₂ 3.9 %
CO 5 ppm
Eff 84.9 %
CO₂ 11.2 %
T-Stk 401 °F
T-Air 93.8 °F
EA 20.6 %
CO(0) 6 ppm
NO 51 ppm
NO₂ 1.5 ppm
NO_x 52 ppm
NO(15) 18 ppm
NO₂(15) 1 ppm
NO_x(15) 18 ppm
Flow 0.78 LPM

O₂ 13.6 %
CO 5 ppm
Eff 77.5 %
CO₂ 4.8 %
T-Stk 366 °F
T-Air 70.9 °F
EA 169.4 %
CO(0) 14 ppm
NO 19.5 ppm
NO₂ 3.0 ppm
NO_x 22.5 ppm
NO(15) 16 ppm
NO₂(15) 2 ppm
NO_x(15) 18 ppm
Flow 0.79 LPM

WARRANTY VOID IF INDEXED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

S AND THEN PRINT TEST RESULTS

O THIS SHEET

Comments:

Comments:

Date: 12 FEB 24	GT 1 DB	GT 2 DB
Start Test	7:05	
Recorded Test	7:20	
O ₂	13.6	
CO	5	
Eff	77.5	
CO ₂	4.8	
T-Stk	366	
T-Air	70.9	
EA	169.4	
CO (15)		
NO	19.5	
NO ₂	3.0	
NO _x	22.5	
SO ₂		
NO (15)	16	
NO _x (15)	18	
SO ₂ (15)		
Mega Watts	7.8	
KSCF/hour	45	

Signature:

Date: 12 FEB 24	BLR 2	BLR 4
Start Test	7:41	
Recorded Test	7:56	
O ₂	3.9	
CO	5	
Eff	84.9	
CO ₂	11.2	
T-Stk	401	
T-Air	93.8	
EA	20.6	
CO (15)		
NO	51	
NO ₂	1.5	
NO _x	52	
SO ₂		
NO (15)	18	
NO _x (15)	18	
SO ₂ (15)		
K lbs/hour	68	

Signature:

EMISSION TEST COLLEGE I



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 07:58:00
Date: 02/19/24

Fuel
PROP

B4

O₂ 5.4 %
CO 0 ppm
Eff 81.2 %
CO₂ 10.2 %
T-Stk 521 °F
T-Air 91.6 °F
EA 31.5 %
CO(0) 0 ppm
NO 83 ppm
NO₂ 0.0 ppm
NO_x 83 ppm
NO(15) 32 ppm
NO₂(15) 0 ppm
NO_x(15) 32 ppm
Flow 0.79 LPM

Comments:



BACHARACH, INC.
PCA 400
SN: 18041087

Time: 08:29:37
Date: 02/19/24

Fuel
PROP

B2

O₂ 3.8 %
CO 0 ppm
Eff 85.9 %
CO₂ 11.3 %
T-Stk 355 °F
T-Air 88.5 °F
EA 20.0 %
CO(0) 0 ppm
NO 52 ppm
NO₂ 0.0 ppm
NO_x 52 ppm
NO(15) 18 ppm
NO₂(15) 0 ppm
NO_x(15) 18 ppm
Flow 0.76 LPM

Date: 2/19/24	GT 1 DB	GT 2 DB
Start Test	7:09	
Recorded Test	7:24	
O ₂	13.4	
CO	5	
Eff	77.6	
CO ₂	4.9	
T-Stk	365	
T-Air	63.5	
EA	162.6	
CO (15)	13	
NO	20.6	
NO ₂	3.0	
NO _x	23.5	
SO ₂		
NO (15)	16	
NO _x (15)	19	
SO ₂ (15)		
Mega Watts	7.8	
KSCF/hour	84	

Signature:

[Signature]

Date: 2/19/24	BLR 2	BLR 4
Start Test	8:14	7:43
Recorded Test	8:29	7:58
O ₂	3.8	5.4
CO	0	0
Eff	85.9	81.2
CO ₂	11.3	10.2
T-Stk	355	521
T-Air	88.5	91.6
EA	20	31.5
CO (15)	0	0
NO	52	83
NO ₂	0	0
NO _x	52	83
SO ₂		
NO (15)	18	32
NO _x (15)	18	32
SO ₂ (15)		
K lbs/hour	48.42	30.64

Signature:

[Signature]

"=



BACHARACH, INC.
PCA 400
SN: 18041087

GT1

Time: 07:24:48
Date: 02/19/24

Fuel
PROP

O₂ 13.4 %
CO 5 ppm
Eff 77.6 %
CO₂ 4.9 %
T-Stk 365 °F
T-Air 63.5 °F
EA 162.6 %
CO(0) 13 ppm
NO 20.6 ppm
NO₂ 3.0 ppm
NO_x 23.5 ppm
NO(15) 16 ppm
NO₂(15) 2 ppm
NO_x(15) 19 ppm
Flow 0.80 LPM

EMISSION TEST COLLEGE P

BACHARACH

BACHARACH

Date: 26 FEB 24	GT 1 DB	GT 2 DB
Start Test	7.21	
Recorded Test	7.30	
O2	13.4	
CO	4	
Eff	77.8	
CO2	5	
T-Stk	363	
T-Air	65	
EA	161.6	
CO (15)		
NO	21.3	
NO2	2.9	
NOX	24.1	
SO2		
NO (15)	17	
NOX (15)	19	
SO2 (15)		
Mega Watts		
KSCF/hour		

BACHARACH, INC.
PCA 400
SN: 18041087

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 08:16:25
Date: 02/26/24

Time: 07:58:05
Date: 02/26/24

Fuel
PROP

Fuel
PROP

B2

O2	4.1 %
CO	0 ppm
Eff	85.9 %
CO2	11.1 %
T-Stk	357 °F
T-Air	94.7 °F
EA	22.3 %
CO (0)	0 ppm
NO	48.0 ppm
NO2	0.0 ppm
NOx	48.0 ppm
NO (15)	17 ppm
NO2 (15)	0 ppm
NOx (15)	17 ppm
Flow	0.85 LPM

O2	7.7 %
CO	0 ppm
Eff	82.5 %
CO2	8.7 %
T-Stk	423 °F
T-Air	89.4 °F
EA	52.5 %
CO (0)	0 ppm
NO	68 ppm
NO2	0.0 ppm
NOx	68 ppm
NO (15)	30 ppm
NO2 (15)	0 ppm
NOx (15)	30 ppm
Flow	0.76 LPM

Signature:

[Signature]

Comments:

Kpph-40

BACHARACH

BACHARACH, INC.
PCA 400
SN: 18041087

Time: 07:36:42
Date: 02/26/24

Fuel
PROP

GT1

O2	13.4 %
CO	4 ppm
Eff	77.8 %
CO2	5.0 %
T-Stk	363 °F
T-Air	65.0 °F
EA	161.6 %
CO (0)	11 ppm
NO	21.3 ppm
NO2	2.9 ppm
NOx	24.1 ppm
NO (15)	17 ppm
NO2 (15)	2 ppm
NOx (15)	19 ppm
Flow	0.77 LPM

Date: 26 FEB 24	BLR 2	BLR 4
Start Test	8.01	7.43
Recorded Test	8.16	7.58
O2	4.1	7.7
CO	0	0
Eff	85.9	82.5
CO2	11.1	8.7
T-Stk	357	423
T-Air	94.7	89
EA	22.3	52.5
CO (15)		
NO	48	68
NO2		0
NOX	48	68
SO2		
NO (15)	17	30
NOX (15)	17	30
SO2 (15)		
K lbs/hour	40	30

Signature:

[Signature]

Comments:

MW-7.8
Kpph-88

EMISSION TEST COLLEGE PARK ENERGY

Date: 3/4/24	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	1331			
Recorded Test	1339			
O2	14.4 %			
CO	3 ppm			
Eff	70.1 %			
CO2	4.3 %			
T-Stk	375 °F			
T-Air	82.0 °F			
EA	199.4 %			
CO (15)	xxx			
NO	17.9 ppm			
NO2	2.2 ppm			
NOX	20.2 ppm			
SO2	xxx			
NO (15)	16 ppm			
NOX (15)	18 ppm			
SO2 (15)	xxx			
Mega Watts	7.9			
KSCF/hour	86			

Signature:

Diana Sutter

Date: 3/4/24	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	1348			
Recorded Test	1410			
O2	5.8 %			
CO	0 ppm			
Eff	86.7 %			
CO2	10.0 %			
T-Stk	308 °F			
T-Air	93.9 °F			
EA	34.6 %			
CO (15)	xxx			
NO	49.2 ppm			
NO2	0.0 ppm			
NOX	49.2 ppm			
SO2	xxx			
NO (15)	19 ppm			
NOX (15)	19 ppm			
SO2 (15)	xxx			
K lbs/hour	24			

Signature:

Diana Sutter

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date: 3/11/24	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	10:50			
Recorded Test	10:57			
O2	13.5 %			
CO	2 ppm			
Eff	77.7 %			
CO2	4.9 %			
T-Stk	363 °F			
T-Air	64.5 °F			
EA	163.9 %			
CO (15)	xxx			
NO	24.2 ppm			
NO2	2.3 ppm			
NOX	26.5 ppm			
SO2	xxx			
NO (15)	19 ppm			
NOX (15)	21 ppm			
SO2 (15)	xxx			
Mega Watts	7.9			
KSCF/hour	50			

Signature:

Diana Sutter

Date: 3/11/24	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	11:00			
Recorded Test	11:18			
O2	3.5 %			
CO	12 ppm			
Eff	85.7 %			
CO2	11.5 %			
T-Stk	357 °F			
T-Air	78.6 °F			
EA	18.5 %			
CO (15)	xxx			
NO	59 ppm			
NO2	3.2 ppm			
NOX	62 ppm			
SO2	xxx			
NO (15)	20 ppm			
NOX (15)	21 ppm			
SO2 (15)				
K lbs/hour	54			

Signature:

Diana Sutter

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date:	GT 1 DB	GT 2 DB	GT1	GT2
Start Test				
Recorded Test				
O2				
CO				
Eff				
CO2				
T-Stk				
T-Air				
EA				
CO (15)				
NO				
NO2				
NOX				
SO2				
NO (15)				
NOX (15)				
SO2 (15)				
Mega Watts				
KSCF/hour				

Signature: _____

Date: 3/18/24	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	16:02	16:23		
Recorded Test	16:22	16:43		
O2	3.6 %	6.6 %		
CO	3 ppm	0 ppm		
Eff	84.1 %	81.6 %		
CO2	11.4 %	10.1 %		
T-Stk	429 °F	512 °F		
T-Air	83.8 °F	101.6 °F		
EA	18.6 %	32.9 %		
CO (15)	XXX	XXX		
NO	63 ppm	75 ppm		
NO2	2.9 ppm	0.0 ppm		
NOX	66 ppm	75 ppm		
SO2	XXX	XXX		
NO (15)	22 ppm	29 ppm		
NOX (15)	23 ppm	29 ppm		
SO2 (15)	XXX	XXX		
K lbs/hour	74	41		

Signature: _____

Dana Smith

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS

EMISSION TEST COLLEGE PARK ENERGY

Date: 3/25/24	GT 1 DB	GT 2 DB	GT1	GT2
Start Test	07:54			
Recorded Test	08:01			
O2	16.2%			
CO	1 ppm			
Eff	xxx			
CO2	xxx			
T-Stk	391 °F			
T-Air	65.3 °F			
EA	xxx			
CO (15)	xxx			
NO	11.0 ppm			
NO2	2.2 ppm			
NOX	13.3 ppm			
SO2	xxx			
NO (15)	xxx			
NOX (15)	xxx			
SO2 (15)	xxx			
Mega Watts	7			
KSCF/hour	122			

Signature:

Darion Sutton

Date: 3/25/24	BLR 2	BLR 4	BLR 2	BLR 4
Start Test	08:07	08:36		
Recorded Test	08:35	09:06		
O2	4.4%	4.9%		
CO	0 ppm	0 ppm		
Eff	85.9%	81.2%		
CO2	10.9%	10.6%		
T-Stk	347 °F	654 °F		
T-Air	87.5 °F	111.6 °F		
EA	24.4%	27.8%		
CO (15)	xxx	0 ppm		
NO	59 ppm	89 ppm		
NO2	0.0 ppm	0.0 ppm		
NOX	59 ppm	89 ppm		
SO2	xxx	xxx		
NO (15)	21 ppm	33 ppm		
NOX (15)	21 ppm	33 ppm		
SO2 (15)	xxx	xxx		
K lbs/hour	38	49		

Signature:

Darion Sutton

WHEN FINISHED TESTING ATTACH FORM TO THIS SHEET

GT: RECORD TIME PROBE IS INSERTED (Start), WAIT 3-5 MINUTES AND THEN PRINT TEST RESULTS

Boiler: RECORD TIME PROBE IS INSERTED (Start), WAIT 15 MINUTES AND THEN PRINT TEST RESULTS



DEPARTMENT OF
**ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK**

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

July 15, 2024

Dakota Blum
Regulatory and Compliance Engineer
Maryland Department of the Environment
Air Quality Compliance Program, Suite #715
1800 Washington Boulevard
Baltimore, MD 21230-1720

Air Enforcement Division Director
Air Enforcement Branch (3AT20)
U.S. Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: University of Maryland, College Park (Permit No. 24-033-00010)

Dear Mr. Blum:

I am writing with respect to the above-referenced permit, issued to the University of Maryland and the Maryland Economic Development Corporation. In accordance with the permit's Plant-Wide Reporting Requirements, Conditions 1.5, 2.5, and 3.5 in Tables IV-1, 2 and 3, the enclosed quarterly air quality report is being submitted for the period of April 1, 2024, through June 30, 2024.

In January, it was discovered that the natural gas supply flow meter for Boiler #2 was malfunctioning. The meter was found to be working intermittently, occasionally functioning and recording gas usage, which ultimately delayed the repair of the unit. As of July 12, 2024, the meter is believed to be fully operational. To estimate the monthly natural gas usage for Boiler #2 for the quarter, we subtracted the sum of the natural gas sub-meters for the other units from the monthly total from the main gas meter for the building.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require any additional information, please feel free to contact me at (301) 405-3163.

Sincerely,

Jason L. Baer
Assistant Director
Office of Environmental Affairs
University of Maryland – Department of Environmental Safety, Sustainability, and Risk

Enclosures

cc: Anthony Grancitelli, CPE (electronic copy)
John Genakos, MEDCO (electronic copy)

University of Maryland- Combined Heating and Power Plant Facility May 2024

Equipment Name	Run Hours (Gas)	Run Hours (Oil)	Fuel Usage		Year-to-Date Operating Hours	12-month rolling Fuel Usage				VOC			NOx			CO			SO ₂			PM ₁₀			PM		
			(mmBtu/month)		(hrs/yr)	scf/12-months	gal/12-months	mmbtu/12-months	tons/month			tons/month			tons/month			tons/month			tons/month			tons/month			
			NG	FO	FO	NG	FO	NG	FO	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total	NG	#2 FO	Total
Turbine 1	115.90	0.00	13809.04	0.00		769,670,000	0	787,873	0	0.0069	0.0000	0.0069	0.8354	0.0000	0.8354	0.0207	0.0000	0.0207	0.0414	0.0000	0.0414	0.0338	0.0000	0.0338	0.0338	0.0000	0.0338
Turbine 2	0.00	0.00	0.00	0.00		35,040,000	0	35,869	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Duct Burner 1	113.10		4115.07			229,560,000		234,989		0.0111		0.0111	0.0267		0.0267	0.0206		0.0206	0.0012		0.0012	0.0040		0.0040	0.0040		0.0040
Duct Burner 2	0.00		0.00			0		0		0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000
Boiler 2*	709.70	0.00	96414.52	0.00						0.0236	0.0000	0.0236	4.3387	0.0000	4.3387	0.1928	0.0000	0.1928	0.0916	0.0000	0.0916	0.0525	0.0000	0.0525	0.0525	0.0000	0.0525
Boiler 4	361.30	0.00	11611.26	0.00						0.0028	0.0000	0.0028	0.6386	0.0000	0.6386	0.0057	0.0000	0.0057	0.0110	0.0000	0.0110	0.0174	0.0000	0.0174	0.0174	0.0000	0.0174
Emerg. Gen.		0.00		0.000	0.3						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	
Mobile Boiler	638.80	0.00	12857.04	0.00						0.0257	0.0000	0.0257	0.2314	0.0000	0.2314	0.2411	0.0000	0.2411	0.0039	0.0000	0.0039	0.0681	0.0000	0.0681	0.0681	0.0000	0.0681
Emissions Total										0.0702	0.0000	0.0702	6.0709	0.0000	6.0709	0.4809	0.0000	0.4809	0.1491	0.0000	0.1491	0.1758	0.0000	0.1758	0.1758	0.0000	0.1758
*In January, it was discovered that the natural gas supply flow meter for Boiler #2 was malfunctioning. The meter was ultimately determined to be working intermittently, occasionally functioning and recording gas usage, which delayed the repair of the unit. As of July 12, 2024, the meter is believed to be fully operational. To estimate the natural gas usage for Boiler #2, we subtracted the sum of the natural gas sub-meters for the other fuel-burning units from the monthly total from the main gas meter for the building.																											
Title V 12 Month Rolling Emission Totals				VOC				NOx				CO				SO ₂				PM ₁₀				PM			
All Power Plant Equipment (combined)				tons/year				tons/year				tons/year				tons/year				tons/year							
Limit				19.8				177				130				33.5				19				18.7			
Actual				1.93				84.84				10.26				3.22				5.04				5.04			
				OK				OK				OK				OK				OK				OK			

COMMISSIONERS

STATE OF MARYLAND

FREDERICK H. HOOVER, JR.
CHAIR

MICHAEL T. RICHARD
KUMAR P. BARVE
BONNIE A. SUCHMAN



PUBLIC SERVICE COMMISSION

#4, 9/4/24 AM; ML#s 309882 and 311910, IR-7189

September 5, 2024

Susan Corry
University of Maryland College Park
7901 Regents Drive
2119 Thomas V. Miller Jr. Administration Bldg.
College Park, MD 20742-5035
scorry@umd.edu

Dear Ms. Corry:

The Commission has reviewed the request for a Certificate of Public Convenience and Necessity Exemption filed on May 24, 2024 by University of Maryland College Park to construct a natural gas and oil-fired electric generator. Additional information was filed on August 26, 2024.

After considering this matter at the September 4, 2024 Administrative Meeting, the Commission approved the application.

By Direction of the Commission,

/s/ Andrew S. Johnston

Andrew S. Johnston
Executive Secretary

ASJ/st

WILLIAM DONALD SCHAEFER TOWER • 6 ST. PAUL STREET • BALTIMORE, MARYLAND 21202-6806

410-767-8000

Toll Free: 1-800-492-0474

FAX: 410-333-6495

MDRS: 1-800-735-2258 (TTY/Voice)

Website: www.psc.state.md.us

UMD NextGen Project: MDE Zoning Inquiry

1 message

Tracey E Skinner <tracey@umd.edu>
To: Jason Baer <jbaer123@umd.edu>

Fri, Jan 10, 2025 at 4:35 PM

Jason,

Hello. You asked the Office of General Counsel ("OGC") to address the following request of the Maryland Department of Environment ("MDE"): As part of the air permitting process for the NextGen project, MDE has requested documentation that "the local zoning authority confirms that the NextGen project is allowed and needed." MDE's request arose not from new construction, renovation or the relocation of UMD's long-existing central energy plant, but from UMD's application for a new air quality permit relating to the replacement of the existing energy equipment with new and more efficient energy equipment. In sum, zoning regulations generally do not apply to UMD, and zoning regulations would not apply to the replacement of equipment housed in the interior of an existing building.

As we discussed, UMD, as a State entity, is exempt from local zoning laws and regulations. In brief, in a 1993 Opinion of the Attorney General, (78 Op. Att'y Gen. 58), it was explained, "[n]umerous Opinions of the Attorney General affirm the fundamental doctrine that operations of State government are not subject to control by local governments absent an express statutory provision that they shall be so controlled. This immunity derives from the sovereign character of the State This principle is frequently encountered in controversies associated with land use. It is well established under Maryland law that when the State uses its property for governmental purposes, county and municipal zoning codes are not applicable, unless the General Assembly's grant of zoning authority to the county includes an express statement or a clear implication that State property will be subject to local control. The State's exemption from county zoning laws extends to its agencies and instrumentalities." Id. at 60-61 (citations omitted). For additional support of this statement, please reference the attached summary of 2019 from OGC.

Notwithstanding the zoning exemption as cited above, when applicable, UMD complies with the Mandatory Referral Review Process as outlined in Md. Land Use Code Ann. §§20-101 et seq. Section 20-301 (attached) lists the type of activities that must be reviewed by the Maryland-National Capital Parks and Planning Commission. UMD's current activity of the replacement of existing equipment inside UMD's long-existing and operating central energy plant, would not come under any of the listed activities under Section 20-301. The central energy plant (UMD Building #001) has existed and been in operation since 1931, and there will be no change to its location, character, grade and extent of the activity.

With the above summary, and considering that the Public Service Commission has review and approval authority, under State law, for energy projects and issued the attached Certificate of Public Convenience and Necessity Exemption for UMD's replacement of energy equipment, I think that MDE's request should be satisfied.

Regards,

Tracey Skinner
Sr. Associate General Counsel & Real Estate Practice Lead
tracey@umd.edu
Direct: 301-405-5644 Office: 301-405-4945
Office of General Counsel
University of Maryland, College Park
2117 Seneca Bldg., 4716 Pontiac Street, College Park, MD 20742

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3 attachments



Zoning Summary re UMD exemption from local zoning laws (2019 RDB).docx
19K



MD Land Use Cd. §20-301 Approval (cpd 01.10.25).pdf
149K



2024.09.05 PSC CPCN Exemptn Apprvl (Appndx G).pdf
50K

In response to the request for support that the University of Maryland (“UMD”) is not subject to local zoning regulations, the following is provided: UMD, as an instrumentality of the Maryland State government, generally is not subject to local zoning requirements. Unless expressly stated, UMD is not subject to local zoning regulations. See People's Counsel for Balt. County v. Surina, 400 Md. 662 (2007) “We held that, as a "territorial division of the State, created and organized for public political purposes connected with the administration of state government, and specially charged with the administration and superintendence of the local affairs of the community," the County enjoyed exemption from its zoning regulations, absent evidence of a contrary intent expressed there, when the proposed use was in furtherance of its governmental, as opposed to corporate or proprietary, functions. *Glascock*, 321 Md. at 122, 581 A.2d at 824 (citations omitted); see also *Pan Am. Health Org. v. Montgomery County*, 338 Md. 214, 226, 657 A.2d 1163, 1169 (1995) (“[T]he common law provides that [the State] is not bound by local zoning ordinances unless the General Assembly clearly indicates a contrary intent. Local governments, as instrumentalities of the State, enjoy this same common-law immunity.”) (citations omitted). Thus, we extended the common-law rule from *City of Baltimore v. State*, that a State enjoys governmental immunity from its own, and its municipalities', zoning laws, to include in the exemption the counties as political subdivisions of the State.”

Although generally exempt from local zoning regulations, UMD is subject to the Mandatory Referral Review. The entire area of Prince George’s County (“PGC”), with the exception of the City of Laurel, is within the Maryland-Washington Regional District and commissioners from PGC are designated as the PGC Planning Board. The PGC Planning Board is responsible for planning, subdivision and zoning functions within the district. See Md. Land Use Code Anno. §20-101, §§20-201 and 20-202. Subject to §§ 20-303 and 20-304 of this subtitle, a public board, public body, or public official may not conduct any of the following activities in the regional district unless the proposed location, character, grade, and extent of the activity is referred to and approved by the Commission. The activities listed in Section 20-301 are:

- (1) acquiring or selling land;
- (2) locating, constructing, or authorizing:
 - (i) a road;
 - (ii) a park;
 - (iii) any other public way or ground;
 - (iv) a public building or structure, including a federal building or structure; or
 - (v) a publicly owned or privately owned public utility; or

(3) changing the use of or widening, narrowing, extending, relocating, vacating, or abandoning any facility listed in item (2) of this section. (Md. Land Use Code Ann. § 20-301. Also see the Zoning Regulations of Prince George’s County Code of Ordinances, Subtitle 27.)

In Pan Am. Health Org. v. Montgomery County, 338 Md. 214 (1995) Public is defined- The word "public" encompasses only the federal, State and local governments. The Mandatory Referral Review statute “sets forth a method through which certain public organizations may obtain approval for a project without having to go through local zoning review.” Wash. Gas Light Co. v. Prince George's County Council, 711 F.3d 412 (2013) citing Pan Am. Health Org. v. Montgomery County, 338 Md. 214, 657 A.2d 1163, 1168 (Md. 1995). While UMD is subject to the Mandatory Referral Review, the approval/ recommendation given by the Commission is not binding. UMD may decide to overrule the disapproval of the Commission and proceed with the activity as proposed. See Md. Land Use Code Ann. § 20-303.

Cases

<u>Pan Am. Health Org. v. Montgomery County</u> , 338 Md. 214 (1995)	2
<u>People's Counsel for Balt. County v. Surina</u> , 400 Md. 662 (2007).....	1
<u>Wash. Gas Light Co. v. Prince George's County Council</u> , 711 F.3d 412 (2013).....	2

Statutes

Md. Land Use Code Anno.	1
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Other Authorities

Zoning Regulations of Prince George’s County Code of Ordinances, Subtitle 27.....	2
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MARYLAND DEPARTMENT OF THE ENVIRONMENT

AIR AND RADIATION ADMINISTRATION

Privilege Log

The following confidential business information has been withheld from the public copy of the permit application:

- Certain emissions calculations and supporting data
- Workers' Compensation account information
- Manufacturer/vendor specifications for equipment to be installed