

# **Measurement of Oil and Gas Well Pad Enclosed Combustor Emissions Using Optical Remote Sensing Technologies**

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## **ABSTRACT**

The U.S. EPA Office of Research and Development and U.S. EPA Region 8 are collaborating to investigate the impact of energy production under the EPA's Regional Applied Research Effort (RARE) program. As part of this effort, a research study was conducted to evaluate technologies that could be used to characterize emissions from enclosed combustors (ECD) at upstream oil and gas production sites. This paper describes a 5-day measurement campaign that was executed to collect emissions data from ECDs at multiple well site locations in a conventional natural gas field. The study used two primary instruments; a Passive Fourier Transform Infrared (FTIR) radiometer, and a mid-wave infrared hyper-spectral imager. The goals of the study were to evaluate the measurement technologies, provide speciated information on emissions from the ECDs, and to assess the combustion efficiency of the ECDs. The paper will describe the measurement technologies, including details of instrument operation, deployment, and data analysis methods. The paper will also include a discussion of data results from the study.