

## AQRP Monthly Technical Report

<b>PROJECT TITLE</b>	Quantification and Characterization of Ozone Formation in Central San Antonio	<b>PROJECT #</b>	20-028
<b>PROJECT PARTICIPANTS</b>	Ezra Wood, Alexa Rhoads, Andrew Lindsay	<b>DATE SUBMITTED</b>	3/10/2021
<b>REPORTING PERIOD</b>	<b>From:</b> 2/1/2021 <b>To:</b> 2/28/2021	<b>REPORT #</b>	6

A Financial Status Report (FSR) and Invoice will be submitted separately from each of the Project Participants reflecting charges for this Reporting Period. I understand that the FSR and Invoice are due to the AQRP by the 15<sup>th</sup> of the month following the reporting period shown above.

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### Detailed Accomplishments by Task

The goal of Task #1 is to prepare for the field deployment to San Antonio which is currently scheduled for the first two weeks of May 2021. The main activities conducted during the reporting period as part of this task were testing out the performance of the ECHAMP peroxy radical sensor at reduced pressure.

No work has been done on Task #2 (Field Deployment), Task #3 (Data Quality Assurance), or Task #4 (Data Analysis). Limited work has been done for Task #5 (Project Reporting and Presentation) including this report.

### Preliminary Analysis

Preliminary analysis of the laboratory characterization of ECHAMP at reduced pressure are that the sensitivity of the instrument is, as predicted, much less sensitive to ambient humidity. The absolute sensitivity does not appear to have changed much. These are encouraging results so far. We have not yet tested the transmission of HO<sub>2</sub> and other organic peroxy radicals (RO<sub>2</sub>) through the new pressure-dropping inlet.

### Data Collected

No field data have been collected, though laboratory data have been collected related to the characterization of the ECHAMP peroxy radical sensor at reduced pressure as described in the "Preliminary Analysis" section.

### Identify Problems or Issues Encountered and Proposed Solutions or Adjustments

Graduate Student Kyle Banecker, who was assisting with the possible inlet interference tests (nitrous acid) has decided to withdraw from the graduate program at Drexel and will no longer

be involved in the project. Alexa Rhoads, Andrew Lindsay, and the PI will continue to have much larger roles than he did so this is not a major problem.

### **Goals and Anticipated Issues for the Succeeding Reporting Period**

A major goal for the next reporting period is to make a final decision regarding whether we will be able to deploy to San Antonio for the project. Assuming we are able to deploy, we will make all the logistical plans, e.g. travel plans, ordering gas cylinders, renting a container to serve as the measurement platform, ordering materials needed. Furthermore we will make measurements of outdoor air in Philadelphia for several days to test the medium-term stability of the instrument, both using our usual sampling methods and using the new reduced-pressure approach.

### **Detailed Analysis of the Progress of the Task Order to Date**

Tasks 1 and 5 are in progress. Tasks 2, 3, and 4 have not started.

**Do you have any publications related to this project currently under development? If so, please provide a working title, and the journals you plan to submit to.**

Yes       No

**Do you have any publications related to this project currently under review by a journal? If so, what is the working title and the journal name? Have you sent a copy of the article to your AQRP Project Manager and your TCEQ Liaison?**

Yes       No

**Do you have any bibliographic publications related to this project that have been published? If so, please list the reference information. List all items for the lifetime of the project.**

Yes       No

**Do you have any presentations related to this project currently under development? If so, please provide working title, and the conference you plan to present it (this does not include presentations for the AQRP Workshop).**

Yes       No

**Do you have any presentations related to this project that have been published? If so, please list reference information. List all items for the lifetime of the project.**

Yes       No

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Submitted to AQRP by

Ezra Wood,  
Principal Investigator