

ENVIRONMENTAL PROTECTION AGENCY

Rhiana Cok, Civil/Environmental Concentration

ABOUT THE EPA

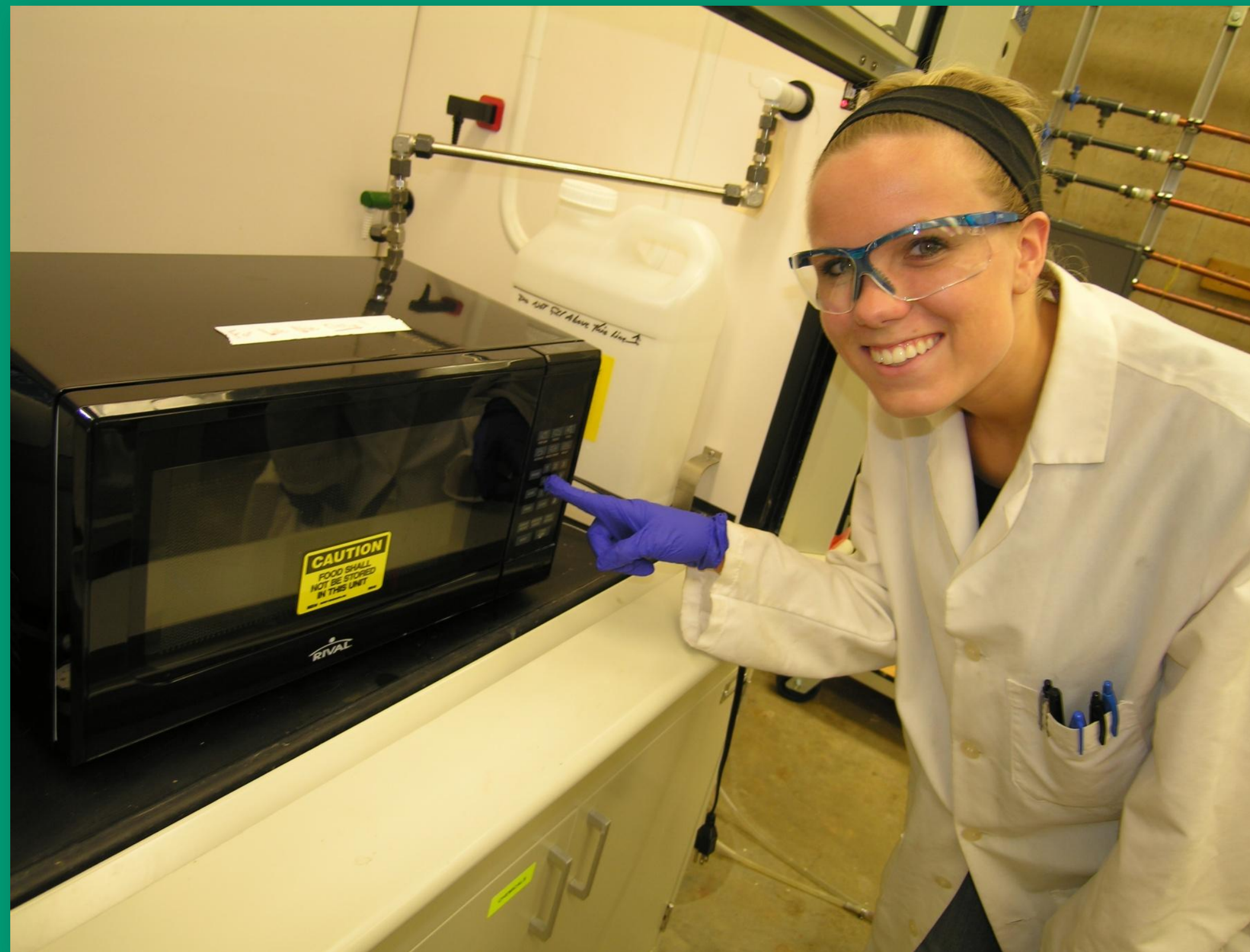
The Environmental Protection Agency (EPA) is a federal environmental agency. The mission of EPA is to protect human health and to safeguard the natural environment -- air, water and land -- upon which life depends.

JOB DESCRIPTION

My internship at the Environmental Protection Agency Office of Research and Development in Cincinnati, OH consisted of office work, lab work, and field work. I conducted research to characterize and minimize drinking water treatment plant residuals under the supervision of Dr. Darren Lytle. I utilized past journals and conducted my own experiments based on standard operating procedures. I visited a drinking water treatment pilot plant and helped out on a job for the Cincinnati zoo.

AWWA CONFERENCE

During my summer internship, I had the opportunity to attend the American Water Works Association Annual Conference and Exposition in Chicago, IL. Dr. Darren Lytle and others at the EPA laboratory encouraged me to attend the conference, and it ended up being a very beneficial experience.



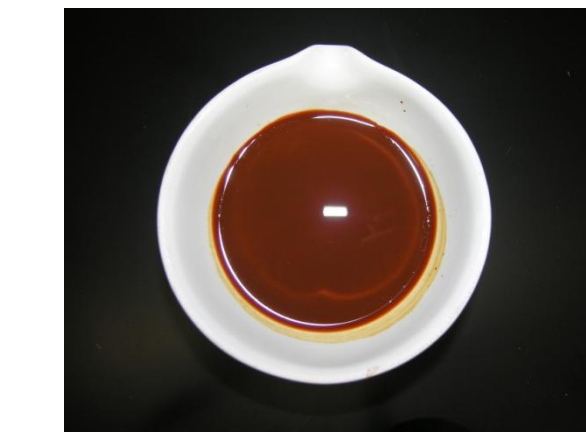
RESEARCH

During my internship, I worked on minimizing drinking water residuals by using different methods of drying. The methods for drying consisted of air drying, conventional oven drying, and microwave drying. I dried five types of residuals total from four different drinking water treatment plants. For each dried sample, I reported the moisture content and time to dry. Although the conventional oven did the best job of drying, it took far longer than the microwave oven. Air drying took the longest.

I also worked on characterizing drinking water treatment plant residuals. Looking at nearly 30 of the EPA's arsenic removal demonstration sites, I organized the residual data into a paper currently under review.

RESULTS

Before drying



Microwave Oven Dried



Conventional Oven Dried



Air Dried



GREATER RESEARCH OPPORTUNITIES

My internship was part of the Greater Research Opportunities (GRO) Fellowship I received in the Fall of 2009 from the Environmental Protection Agency (EPA). The Fellowship allowed me to choose from multiple EPA laboratories across the United States and a variety of projects. My internship on drinking water treatment at the EPA in Cincinnati, OH was one of the best experiences I have had as a student.



CALVIN
MINDS IN THE MAKING