

"Michelle Wagner"'s Individual Contribution Page

"Semester" Contributions

h3. Fall 2008 Mid-Semester Contributions

In the Fall semester the Arsenic Team has accomplished some goals. Since arsenic is a toxic compound it was essential to create a secure lab space so that individuals will not be accidentally exposed to arsenic. Also, we established proper signage and toxic waste disposal area. Once the lab space was secured, we began working to obtain the needed equipment and chemicals for the experiments. The equipment that we used was a tumbler, which acted as a flocculator for the samples; a centrifuge that mimics sedimentation and the GFAAS (graphite furnace atomic absorption spectrophotometer) to determine the concentration of arsenic in our samples.

Prior to the experiments I contributed by researching papers about methods of arsenic removal. I wrote about the paper: "Comparisons of Polymeric and Conventional Coagulants in Arsenic (V) Removal", written by Maohong Fan, et. al (2002). In this study the investigators analyzed some coagulation conditions including temperature, pH, type of coagulant, the addition of a coagulant aid, and the initial arsenic concentration, which were useful to our project.

We started the experiments by creating calibration curves of dilution series without arsenic in order to learn how to prepare them. Later, we created a solution that mimics groundwater, which we used in testing procedures that involved PACl as a coagulant in different processes, like filtration and sedimentation, in order to determine the best solids removal technique.