

hz63

Fall 2008 Semester Contributions

For the Fall 2008 semester, I am a part of the [Flocculation](#) group of the [Pilot Plant Team](#). Within the Flocculation sub-group, I have been working on both the [Tube Flocculator](#) and the [Uniform Vertical Flow Hydraulic Flocculator](#). The members of the Pilot Plant Flocculation sub-team are Julia Schoen, Christine Barnett and I. In the beginning of the semester, the main functions objectives of the Pilot Plant Flocculation sub-team were setting up and orientating ourselves about the mechanisms of the Pilot Plant. One major delay was caused by a leak in the sedimentation tank, which was only fixed in mid-October. Once the leak in the sedimentation tank was repaired, we were able to continue our experiments.

The major goal of this semester is to create a turbidity profile for the Uniform Vertical Flow Hydraulic Flocculator. The Pilot Plant Flocculation sub-team will compare the turbidity results from both the uniform baffles and the non-uniform baffles. First, I helped to remove the non-uniform baffles from the Uniform Vertical Flow Hydraulic Flocculator and install the uniform baffles. I helped put together the uniform baffle arrangement and install them into the Uniform Vertical Flow Hydraulic Flocculator. In order to perform tests on the non-uniform baffles, the number and arrangement of the various types of baffle spacing were determined. I helped to calculate the number of baffles and the baffle spacing for each non-uniform baffle spacing section. In addition, I helped to arrange the non-uniform baffles so that they can be installed when required. In the Pilot Plant, I have helped to run the process controller and FREDa in order to determine the turbidity profile. I have also helped to install and setup the tube settlers to determine the turbidity of the raw water within the flocculator. I have learned how to operate the pump to remove excess flocculation buildup in the tank and learned the procedures for operating the process controller. Most importantly, I have learned about the general concepts and components behind the operation of the Pilot Plant.

One of my major accomplishments was to determine the ratio between the PAC dosage used by the plant operators and the Pilot Plant. Based on the amount of 1 ppm of PAC to the concentration of alum dosage, I helped determined that the optimum alum dosing for the Pilot Plant is approximately 4 mg /L, which is much lower than expected.

In terms of the Agua Clara Wiki Page, I have helped to organize and create the content for the entire Pilot Plant Wiki, in particular the Flocculator sub-team. I have organized and created content for the results, construction history, design and flocculator methods and maintenance. I have contributed content to the main flocculation page, tube flocculator and Vertical Flow Hydraulic Flocculator. I have also written the group meeting minutes several times. All the graphics and pictures were created, inserted and formatted by me. I ensured that the figures placed on each page were commented and formatted correctly. For the Final Wiki Report, I helped perform extensive editing of the pages and figures. In addition, I helped to create and extensively edit multiple pages on the Wiki. Finally, I have added or created changes or content to the Wiki to improve organization, aesthetics and performance.

For the final presentation, all the text, figures and layout were created by me. I helped create, write, organize and format the Final Presentation to make it clear and informative. I also was one of the unofficial photographers for the Pilot Plant Team.

Spring 2009 Semester Contributions

For the Spring 2009 semesters, I am a member of the [Chemical Dose Controller](#). I have worked on the Linear [Chemical Dose Controller](#) with Steve to determine the minimum inner diameter of tubing that connects to the pressure-break tee. In addition, this semester I have begun writing the AguaClara paper for publication for the research behind the linear [Chemical Dose Controller](#). I have written a preliminary draft for publication, but there remains much more editing. I have determined the scope of the paper for publication. Currently, I am working on the designs for the Entrance Tank and the Rapid Mix Chamber. I have contributed ideas to the design and have helped with the design specifications. In addition, I have wrote the initial drafts of the Linear Chemical Dose Controller scientific manuscript for publication.

Content created by Anonymous

There are no pages at the moment.
