

Eric Stucker's Individual Contribution Page

Spring 2013 Contributions

My contributions to the Demo Plant team this semester can be split into two categories: lab work and documentation. While Jen and I often worked in tandem on most lab aspects of the plant, there were several items I did individually. Early in the semester I worked on applying silicone sealant to repair the broken Flocculator, and I took inventories of the plant materials in our group's possession. While Jen recorded the final edition, I recorded the original list and put individual lists with each plant set. I also met with May to help her handle assembling and operating the plant in the case she brought it to India with her. This gave me additional early experience operating the plant, which was useful for our group's creation of a backdrop and improved Users' Manual. The next few weeks focused on improving ease of operation and getting the plant ready for full transport display in India or San Francisco, including testing the SRSF and its ability to backwash properly. Once again, Jen and I mostly split this work (she will elaborate on her contributions which included the detailed backdrop). We also received some help from Paul Charles and Monroe with respect to fabricating parts for the Flocculator and SRSF.

After spring break and symposiums, we set to improving the plant and preparing for future models to be built. Often, this involved testing flow rates within the plant to determine what changes were required in the dosing arm, or tubing lengths. It also involved determining proper clay and PACl dosing and ordering new measuring spoons for easier dosing. We also conducted several instances of troubleshooting with regards to the sedimentation tank, SRSF, and entrance tank. We recently completed several improvements to increase plant flow rate and create more reliable coagulant dosing through the drop tube.

In terms of documentation, Jen and I usually split or alternated responsibility of writing/editing progress reports. However, I was able to reformat the reports in Lyx and add pictures and other documentation as the semester progressed. I also created the Users' Manual, using our group's experiences and a previous version of the document. The Manual includes pictures, tables, and detailed instructions on assembling, running, and troubleshooting the plant.