

# adv22

## Alex Vandenberg's Individual Contribution Page

### Summer 2009 Contributions

I'm a new member this summer, 2009, working with the Chemical Dosing Control subteam. For summer 2009, I started out working with the rest of the CDC team setting up and then running experiments in an attempt to recreate a foam forming in current AguaClara plants. My role in the experiments was the same as for the other members: I used Process Controller to create the code on the computer that would run the experiment, I helped run the experiment by monitoring it's progress, and I went through the code we had written in order to find the bugs that initially plagued the experiment. We eventually determined that a surfactant was strengthening bubbles caused by aeration in the plants, and eventually the bubbles formed a foam on the surface of the water.

For the CDC Teach-In, I was responsible for finding and creating visuals for our slide show. I took pictures of our experimental setup and added labels to them. Then I used Adobe Illustrator to create a diagram representing our experimental setup. In addition, I volunteered to assemble the various slides from each member into a single, coherent slide show.

[CDC\\_TeachIn\\_6-25-09.ppt](#)

I worked with the rest of my team to find a solution to the aeration problem in the plants. We believed that reducing or eliminating the aeration of water would lead to less foam formation. I was specifically in charge of designing [diagrams](#) to help visualize our current theoretical solutions, and putting them up on the wiki.

Once we had our 4 main designs, my team and I set about testing each one to see which were actually possible solutions. I played a major role in determining the distance that jets of water coming into the LFOM through orifices would travel. As a team, we all worked hard to test the designs, going so far as to travel to the pilot plant to physically test two of our designs. I was in charge of taking photos of our test and uploading them to the wiki at the [Experimental Method for Retrofit Designs](#) page.

After finalizing our retrofit designs, I began work with Francine on the Non-Linear Doser. I focused mainly on creating a visual to help others envision how the NLD would be set up.

[NL-CDC.pdf](#)

### Pages Created

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| <b>Content created by Anonymous</b> |
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