Detailed Task List

Task Map:



Task Details:

Date Due Task - Individual responsible. Detailed explanation.

- 1) **Monday 10/6** Over the summer the eye bolt attached to the entrance tank float rusted even though it was barely in contact with water. CDC team will determine a better alternative material that will not rust and will therefore be more effective.
 - i) Individual Responsible: Annie Cashon
- Wednesday 11/12 Purchase and test several different CHT (constant head tank) for ease of use.
 - a) Verify or assess the compatibility with chlorine (especially the cap).
 - b) Can it be disassembled and cleaned easily?
 - i) Individual Responsible: Annie Cashon
- 3) Wednesday 11/12 Make system easier to install in field (fix Spring 2014 setup manual and create manual for future CDC teams).
 - a) Update pictures to reflect current designs. Make manual more readable and easy to understand.
 - b) Have team assemble CDC from current instructions/guidelines to get a better idea of

setup in the field. Document problems, confusions, etc.

- c) Work with May and Guneet about problems encountered during setup in the field.
 - i) Individual Responsible: Jeanette Liu
- 4) **Monday 11/13** Assemble and test all the components for chemical dosers of different flow rates.
 - a) (Start when we finish task 1) We need a plan for shipping CDC systems. This should be coordinated with AguaClara LLC.
 - b) Assemble 2 doser systems using the current parts list and verify that everything works well. Propose improvements, test them, and then create CDC kits that are ready to ship. Determine the price per kit.
 - i) Individual Responsible: Christine Leu
- 5) Wednesday 11/19 Determine if air purge system described by Spring 2014 team is a viable option for 1/16" tubes. If it is not, fabricate or design and test an alternative method.
 - i) Individual Responsible: Annie Cashon
- 6) Wednesday 11/19 Determine if the half size doser is appropriate for chlorine dosing and if so, design a single lever, half size doser system for village level chlorinators. If the half size doser is not appropriate, then design a single lever, full size doser. Design the single lever system to use the same lever as the double lever system. Test and evaluate the single lever system for ease of use and check its accuracy.
 - a) Email Minty to assist with testing.
 - b) Use MathCAD files to find CDC dimensions for 10 cm head loss.
 - i) <u>CDC India.xmcd</u>
 - ii) <u>CdcFunctions.xmcd</u>
 - iii) Individual Responsible: Christine Leu
- 7) **Monday 11/24** Figure out the flow breakpoints in the design that result in selection of different tubing sizes or different number of tubes (dosing tubes?).
 - a) Use MathCAD files listed under task 6.
 - i) Individual Responsible: Jeanette Liu
- 8) Wednesday 12/3 Test units at stock concentrations used at AguaClara facilities.
 - a) Evaluate based on errors in dosing, failure modes, longevity, and any perceived operational challenges based on our experimentation.
 - i) Individual Responsible: Annie Cashon
- 9) Wednesday 12/3 Assess necessary packages/setup to Honduras.
 - a) CDC manual Set Up: Take along a complete doser and demonstrate setting up at plant site.
 - b) Find the best way to transport items
 - c) Look into flexible drop tube as a potential option (as opposed to rigid drop tube)
 - i) Individual Responsible: Christine Leu
- 10) **Wednesday 12/3** Demonstrate the ability to swap components quickly and easily to adjust flow rate and to calibrate the doser (did last semester).
 - a) Time it.
 - i) Individual Responsible: Jeanette Liu
- 11) Wednesday 12/3 Determine the flow range for the mini float valve and then design for higher

flow rates using a larger float valve.

i) Individual Responsible: Annie Cashon

Roles:

- Team Coordinator: Annie Cashon
 - The team coordinator is responsible for facilitating Team meetings and keeping track of progress over the course of the semester to ensure that goals are completed in a timely manner. Additionally, the Team Coordinator is the point person for communication between their team and their faculty or student advisor, as well as between their team and the entire AguaClara leadership team.
- Data Coordinator: Jeanette Liu
 - The data coordinator is responsible for ensuring that data from experiments is saved in an appropriate place on the server and with an appropriate name. The Data Coordinator could also be responsible for doing a preliminary review of data collected to lead discussions about experimental results in meetings.
- Materials Coordinator: Christine Leu
 - This individual is responsible for ordering materials (through Casey) for their team, as well as keeping track of and organizing materials previously ordered.

Monroe: What could be wrong with the half size doser? Challenges are confusing -Set up a bi-weekly meeting times with India folks (+9.5hours) -Major losses dominate... How to calculate/experiment to find breakpoints... come up with mathcad solution then verify experimentally <u>-PICTURES</u>