

Foam Filtration Task List

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1. Build New Prototype and Stand that is easy to assemble, easy to acquire pieces in Honduras, attractive and compact. (1/28/13 - 4/1/13)
 - (a) Week of 2/18: Have all parts ordered; have design for all shop work (Completed)
 - i. All parts have been ordered; Basic Foam filtration system has been designed; LFOM has been designed in MathCad and approved by Monroe Weber-Shirk. Stand has been designed by Jenny Guan free-handedly.
 - (b) Week of 2/25: Have all parts arrive. Deliver parts to shop (In Progress)
 - i. All parts for LFOM and Foam Filtering (roughing and finishing) have arrived and been cut. We are currently waiting for the pieces of the stand to arrive to assemble both the stand and the overall foam filter. The construction of the foam filter is being slowed because we do not have a stand to assemble it on.
 - (c) Week of 3/4: Assemble roughing and finishing filter and plunger/cleaner. Design LFOM (In Progress)
 - i. Roughing and Finishing Filter have been cut and are ready for assembly. Filters and filter piping have been cut to proper diameters/ heights and strung (for cleaning and depth purposes). The plunger/ cleaner has been assembled and is completed.
 - (d) Week of 3/11: Assemble LFOM. Work on/design the stand. (In Progress)
 - i. LFOM is currently in the shop being cut; ready for assembly by 4/12/13. Stand has been designed– waiting for pieces to arrive to process and assemble.
 - (e) Week of 3/25: Begin lever arm and doser design. (Started 4/8/13– may not finish by end of semester)
 - i. Lever arm for coagulant will be similar to that of the demo plant. Demo plant is currently re-designing/ editing required height to develop a linear flow. Correspondance among demo team and foam filter has resulted in the idea of lever arm and chemical doser but not complete design. Unclear how foam filter will dose chlorine at end of roughing filter. Do not have a pre-existing design. Unsure if needs to have another linear doser, this will take up a lot of space and also seems unrealistic in construction.
 - (f) Week of 4/1: Begin constructing lever arm and doser (May not finish-dependent on status of item E)

- (g) Week of 4/8: Continue lever arm/doser construction. (May not finish- dependent on status of item E)
 - (h) Last week (4/15-4/27): Focus on the fabrication guide and techniques. Make a manual that can be easily understood and replicated (Not yet started- will be completed by end of semester)
 - i. Fabrication guide will be finished by the end of the semester based on the progress that has been made. Team has been recording progress to generate a clearly understood process of building a foam filter from scratch to completion (or level of completion finished by end of Spring 2013 semester).
2. Way to Measure Flow and Head loss for cleaning (5/1/13-5/4/13) (Will not be completed)
- (a) Regulate flow
 - i. Measuring flow and head loss will not be completed by the Spring 2013 Foam Filtration team because of difficulties in the ordering, construction and design phases of the semester's foam filter. It has taken longer than expected to design the stand, have pieces arrive and under/process pre-existing files (which often did not exist). Spring team 2013 was not familiar with the foam filter fabrication or processes before this semester with the exclusion of Jenny who served on the foam filter team Fall 2012. However, Jenny was not familiar with the physical design or construction of the foam filter.