"Arsenic Team" Detailed Task List Spring 2013

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Obtaining and Disposing Arsenic

Finish by 02/08/13

Status: Complete

- Obtaining arsenic
- Disposal methods
  - General how-to's- Safety and training certification, practices, safety equipment
  - Identifying the different wastes and the disposal
  - Labeling, storage (fridge, shelf-life), lab testing equipment, pick-up locations

Water Type

Finish by 02/19/13

Status: Complete

- Interaction w/other metals
- Groundwater composition (both in Bangladesh and Ithaca)
- Lab prep and conditions (pH, temp, etc.), interaction w/organics
- Literature review on past arsenic-driven studies

Measuring Techniques

Finish by 03/05/13

Status: Complete

- Research the following detection methods:
  - Colorimetric
  - Electrochemistry
  - ICP-MS
  - GFAAs
    - ArsenicGuard
    - OVA5000
    - PSA 10.255

Data Collection Methods

Finish by 03/12/13

Status: Complete

- Design a system to quantify the performance the treatment system that records various types of data
- Look into ways of adding an arsenic concentration reader to Process Control data collection

Non-coagulation Removal Systems

Finish by 04/09/13

Status: In progress

- Maximum acceptable contaminant concentration for sending effluent directly to the drain
  - Calculate expected contaminant concentration of effluent
  - Adsorption or filtration units that could potentially be added on to the end of system to meet compliance

Removal Systems

Finish by 04/23/13

Status: In progress

- Research use of coagulants in arsenic removal processes
- Investigate coagulant physics

Experimental Design

Finish by 04/23/13

Status: In progress

- Calculate necessary amount of space for experimentation
- Determine amount of arsenic needed for experiments
- Utilize Mathcad for these quantifications

AguaClara in Southeast Asia

Finish by 04/30/13

Status: Not started

- Other ways in which AguaClara can be relevant aside from treating water from contaminanted tubewells