Ram Pump Detailed Task List Spring 2014

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1 Honduras Performance

- ask for data/updates from Drew regularly via email (frequently)
- consult Ariel regarding installation and performance (2/12/14) - Ruben

2 Modify Head Loss System - Ruju/Kelly by 02/13/14

- test out using flexible tubes instead of PVC pipes (3/8")
- purchase whichever system works better

3 Sketch modified overall schematic of system - Kelly (word document) and Ruju(AutoCAD) by 02/19/14

- higher ODT to obtain higher head comparable to Honduras
- extend ODT to reduce lab space
- recycling system that doesn't require manual operations
- more compact head loss system
- email and consult Monroe

4 Rebuild the Ram Pump

- purchase the parts - All by 02/19/14
- build the pump (whenever supplies arrive) - All

5 Experimentation

5.1 Reliability

- run pump for extended periods of time and check for wear points, ease of repair, etc. - (After pump is built, 2/25) All
- check durability of components from online sources, etc. - (2/15/14) Ruju
- target is one year of run time between failures

5.2 Efficiency

- optimize flow rate through modifying the order of components, weights used, and size of air chamber. (After initial testing, 3/5/14) - All

5.3 Scaling

- modify drive pipe to increase influent flow rate (After initial testing, 3/5/14) - All
- may require purchasing parts for the ram pump (Depending upon results, 3/10/14) - Kelly

6 Documentation

- Evaluate whether the pump should be included in the plant design or whether this is a standalone item that we would provide a detailed design for on the website (3/25/14) All