

FUTURE CHALLENGES

(Plate Settler Spacing – Summer '11)

We realize that the direction and scope of the research work might change due to a myriad of factors. Yet, below are some of the future challenges that we see right now. They are not definite – but perhaps meant to be a guide to tell where we left off and where the future team might be headed to.

We see that the future team might perhaps be playing with the combinations of the following:

1 Raw Water Composition

Currently, the raw water entering the system is mixed with the concentrated kaolin clay. The combination of the two ensures that the influent turbidity is at 100 NTU. Yet, it was suggested that that team might switch from using clay to experimenting with natural organic matter (NOM) to simulate real-field conditions for the water treatment plants. The influent turbidity shouldn't change; nevertheless the chemical makeup of incoming water might change other parameters in the treatment system.

2 Floc Blanket

Presently, the team uses floc blanket – a system of suspended flocs - in its operations. However, again, the water treatment plants based off of the AguaClara design do not have a floc blanket at all. Therefore, to mimick these conditions, the team might perhaps be testing the performance of the plate settlers without the floc blanket. The absence of floc blanket should, again, change some parameters and consequently, the performance.

3 Coagulant Type

As of now, we are using Alum as our coagulant to facilitate the creation of flocs. Another option for the choice of coagulant would be PACl (polyaluminium chloride). PACl is currently used as a flocculant in a several water treatment plants in Honduras. Perhaps slightly higher unit price of PACl might be balanced by a lower dosage and a shorter flocculation period.