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Stacked Rapid Sand Filter Theory

[[Purpose and summary of this presentation. Where to find more information]]

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StaRS Filters clean settled water

- Schematic (Monroe's)

Lucinda

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StaRS Filters clean settled water

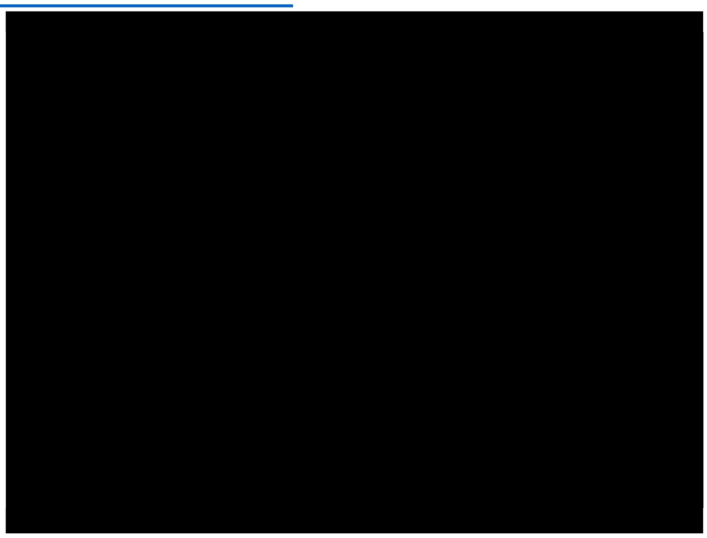
- Video of water entering the filter

Research | Spring 2016

Jonathan

Backwash cleans the filter

- Backwash video



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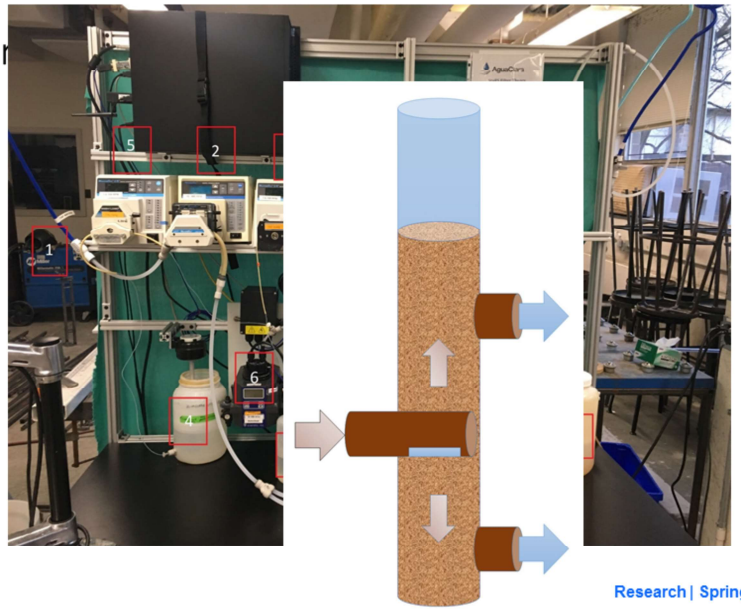
Jonathan

Raw water flows through two layer sand in the filter



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Lucinda

Clay alone never causes filter failure

- Plot of clay turbidity

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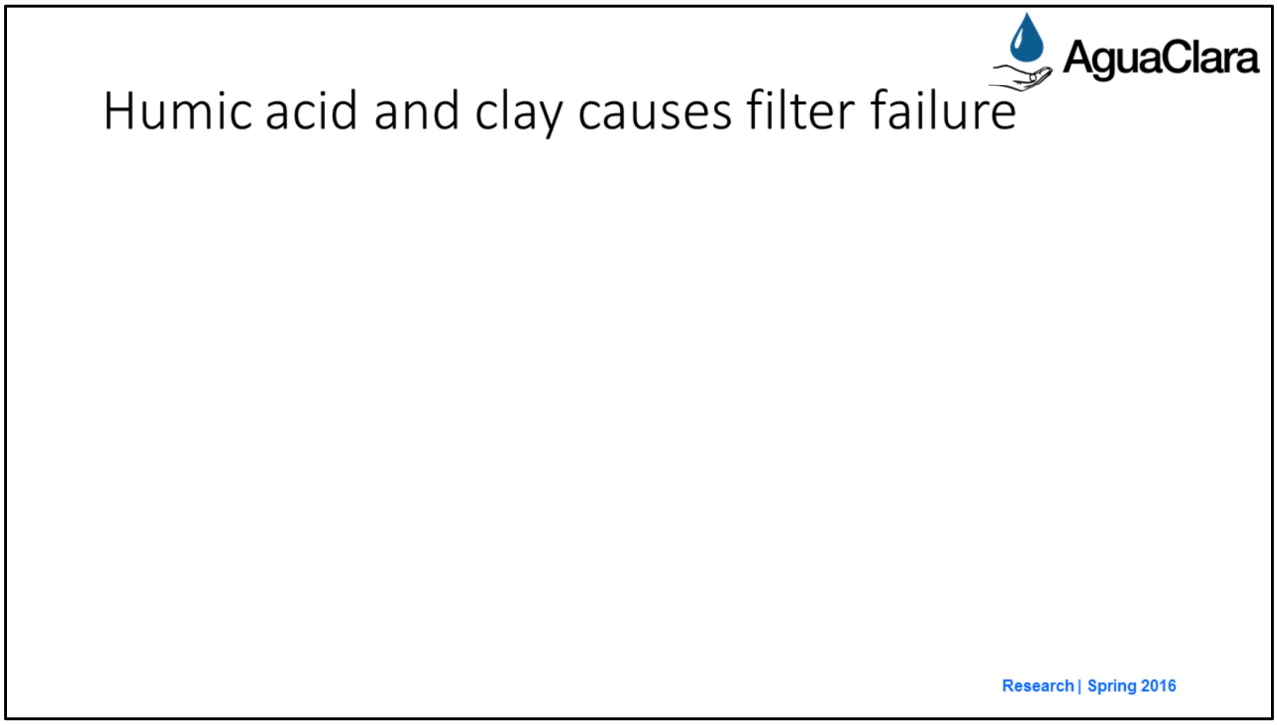
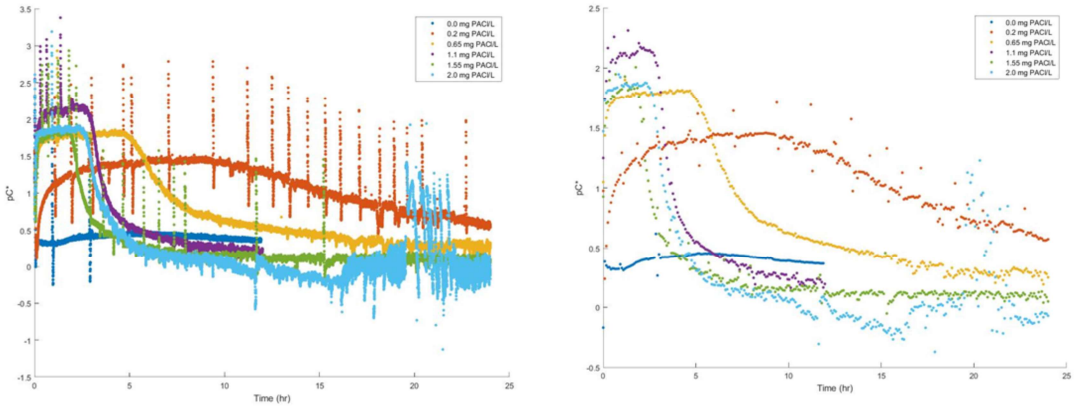
Lucinda

Humic acid and clay causes filter failure



Experimental conditions
24 hours
Theresa

Smoothing data shows trends clearly



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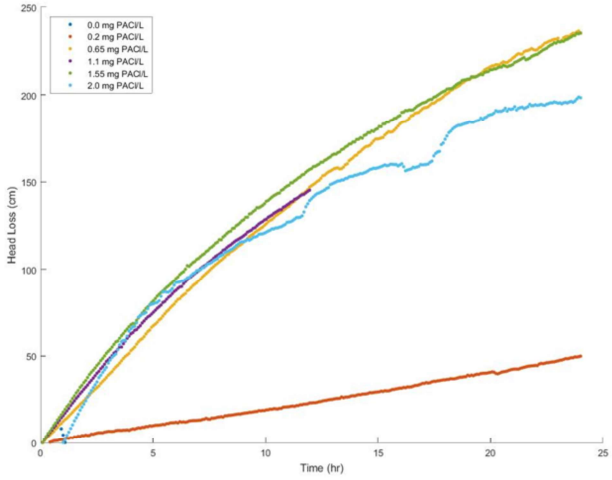
Theresa

Increasing PACl dosage increases head loss



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Lucinda

Mass of coagulant dosage affects head loss

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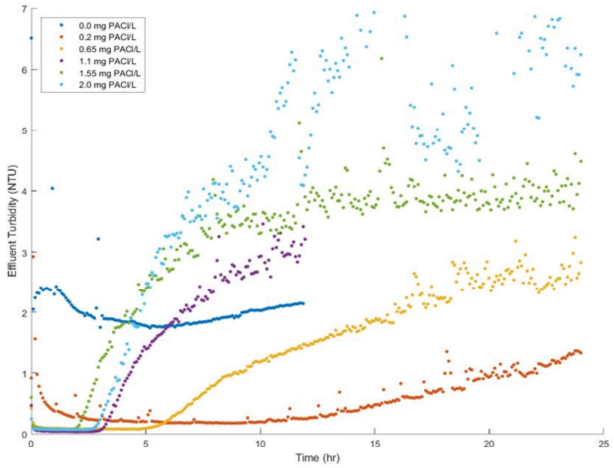
Lucinda

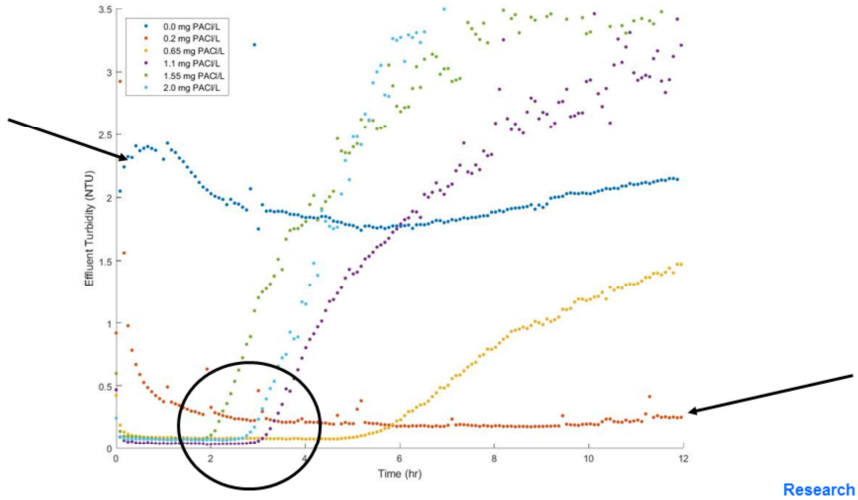
Increasing PACl dosage changes effluent turbidity level



Research | Spring 2016

Jonathan

Increasing PACl dosage changes effluent turbidity level



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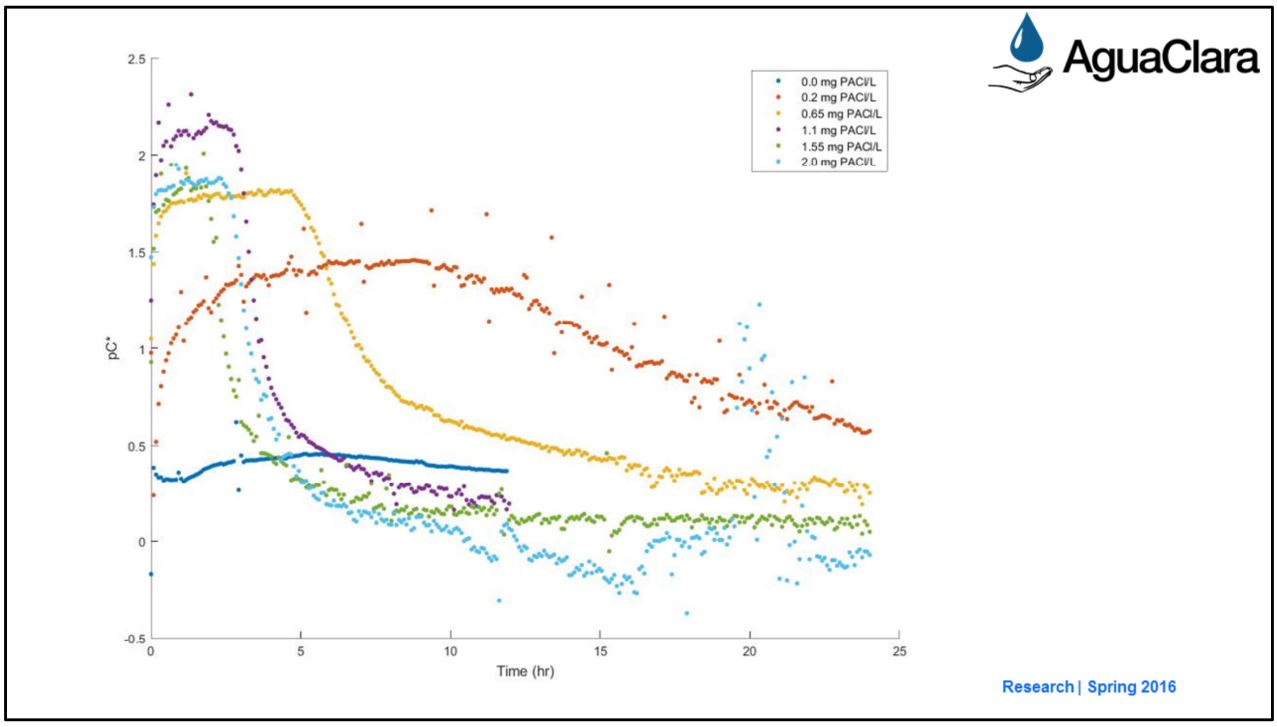
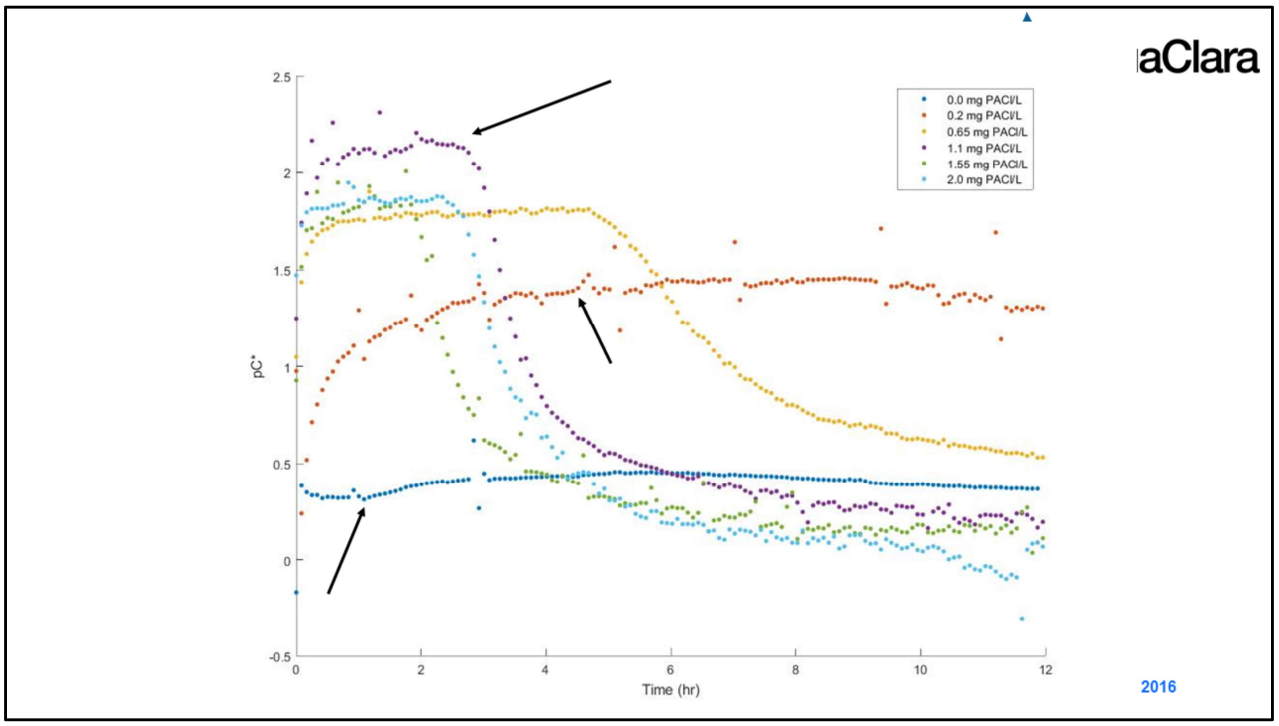
Jonathan


AguaClara
0.0 mg PACl/L
0.2 mg PACl/L
0.65 mg PACl/L
1.1 mg PACl/L
1.55 mg PACl/L
2.0 mg PACl/L
pC*
Time (hr)
Research | Spring 2016

Jonathan


aClara
0.0 mg PACl/L
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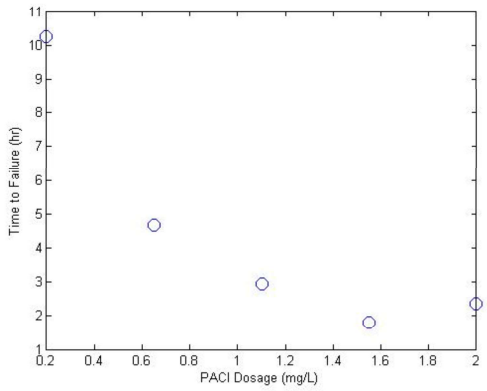
0.65 mg PACl/L
1.1 mg PACl/L
1.55 mg PACl/L
2.0 mg PACl/L
pC*
Time (hr)
2016

Jonathan

AguaClara

Increasing PACl dosage causes faster failure



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Theresa

Explore the effect of different influent conditions

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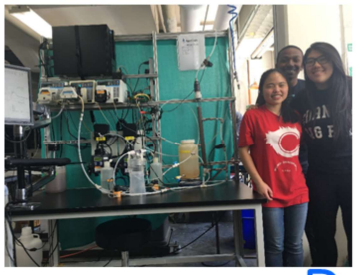
Coagulant sticks to walls of filter, making backwash difficult
Flocs settles in cuvette of turbidimeter measuring influent water
Theresa



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Questions and Recommendations

[[Team Member Name]]
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[[Email Address]]

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[[Degree Pursuing]]
[[Email Address]]

[[Team Member Name]]
[[Degree Pursuing]]
[[Email Address]]

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Appendix Slides

Team Type | Semester Year

Steps used to test the filter

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Procedure and experimental conditions
PID

Filter Schematic

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Experimental Apparatus

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