



Sultan's Dam Failure and How It Improved Their Treatment

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PUBLIC HEALTH
ALWAYS WORKING FOR A SAFER AND
HEALTHIER COMMUNITY



Office of Drinking Water Mission

We work with others to protect the health of the people of Washington State by ensuring safe and reliable drinking water.



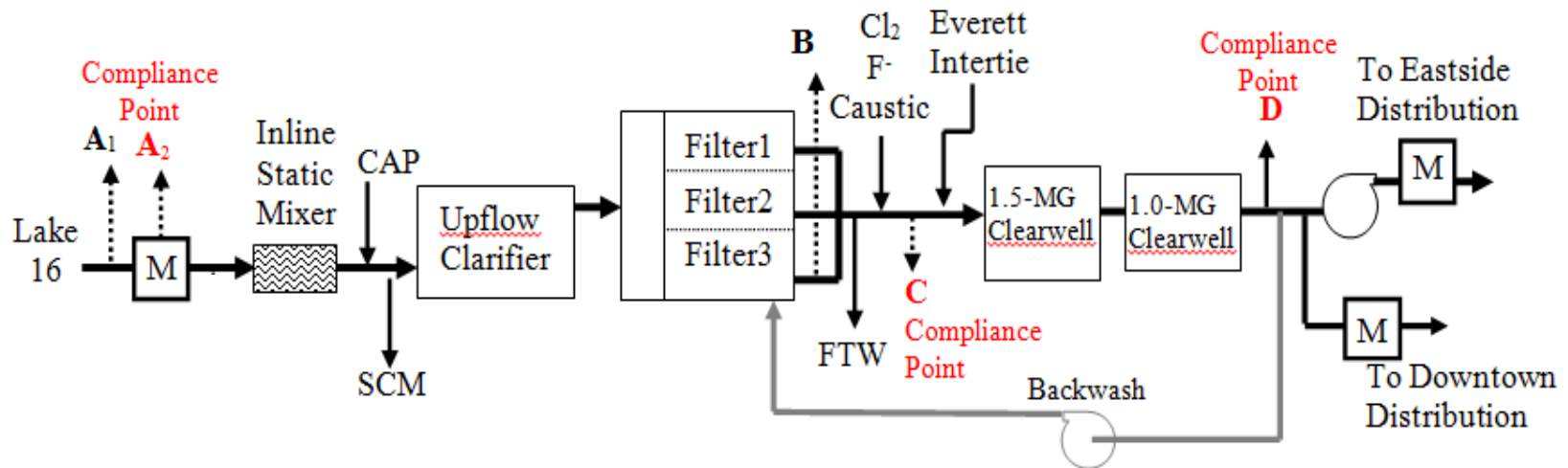
Outline of Presentation

- System overview
- Timeline of events
- A-ha moments
- Treatment plant changes
- Success!

System Overview – Lake 16



System Overview



Wednesday April 20, 2011

- Phone call from Mike Williams, Treatment Plant Supervisor/Operator
- We lost our lake!



































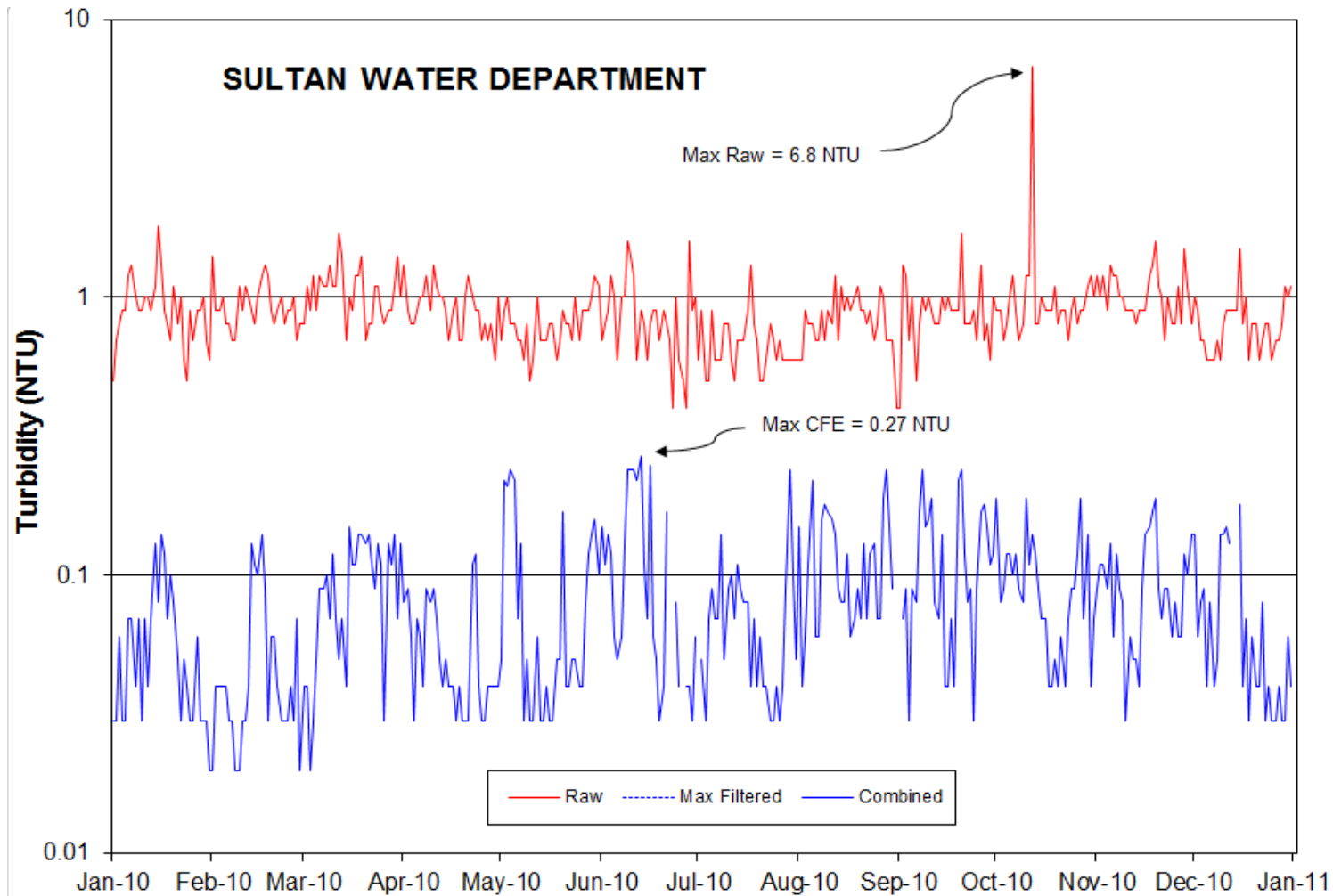




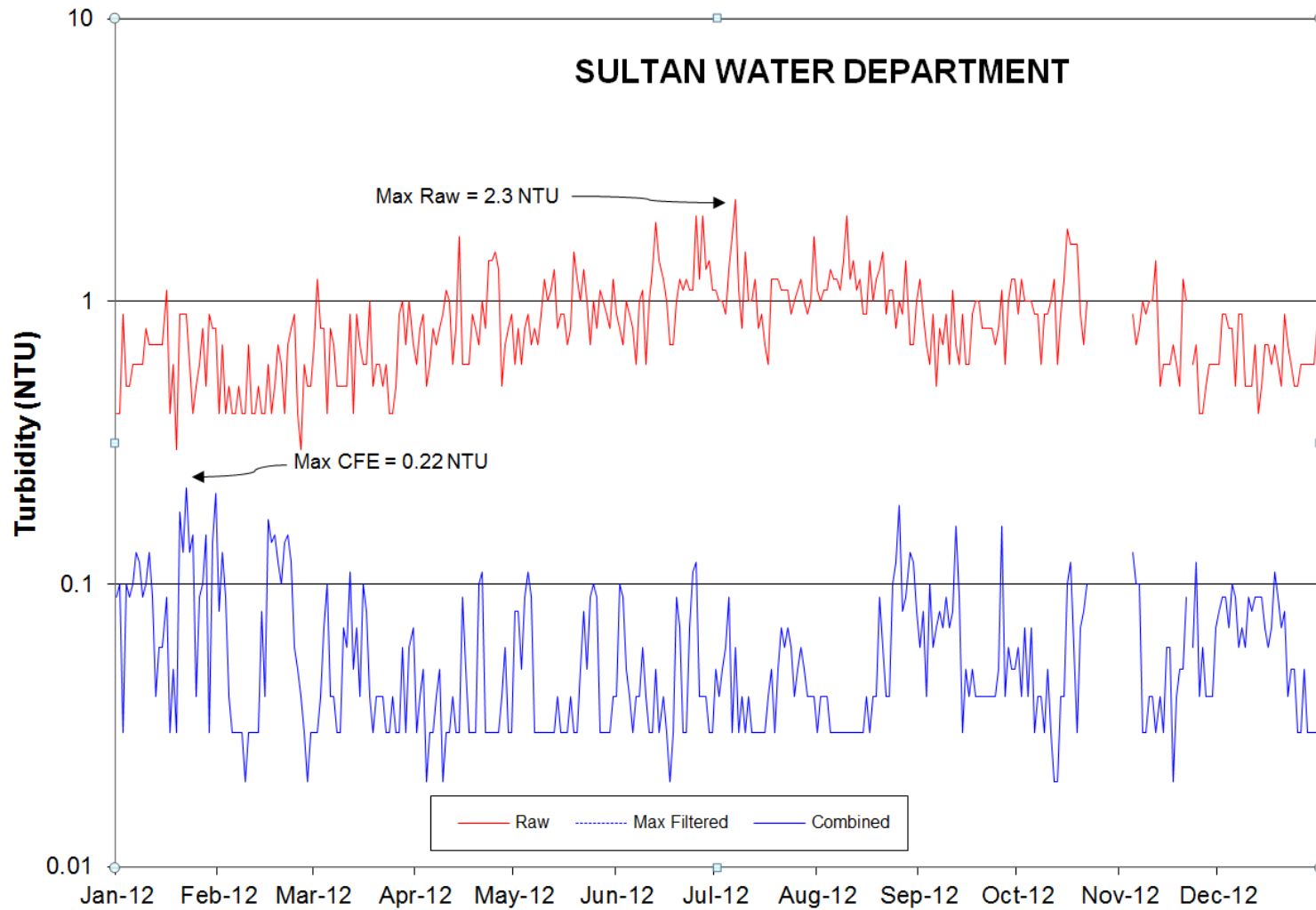
A-ha Moments

- Performance Based Training (PBT)
- Looking at turbidity data after repair of the dam
- What's different now?

2010 Turbidity



2012 Turbidity



After the Repair

- Improved turbidity removal
- Same water source
- Same treatment plant
- What's different?
- New concrete behind the dam

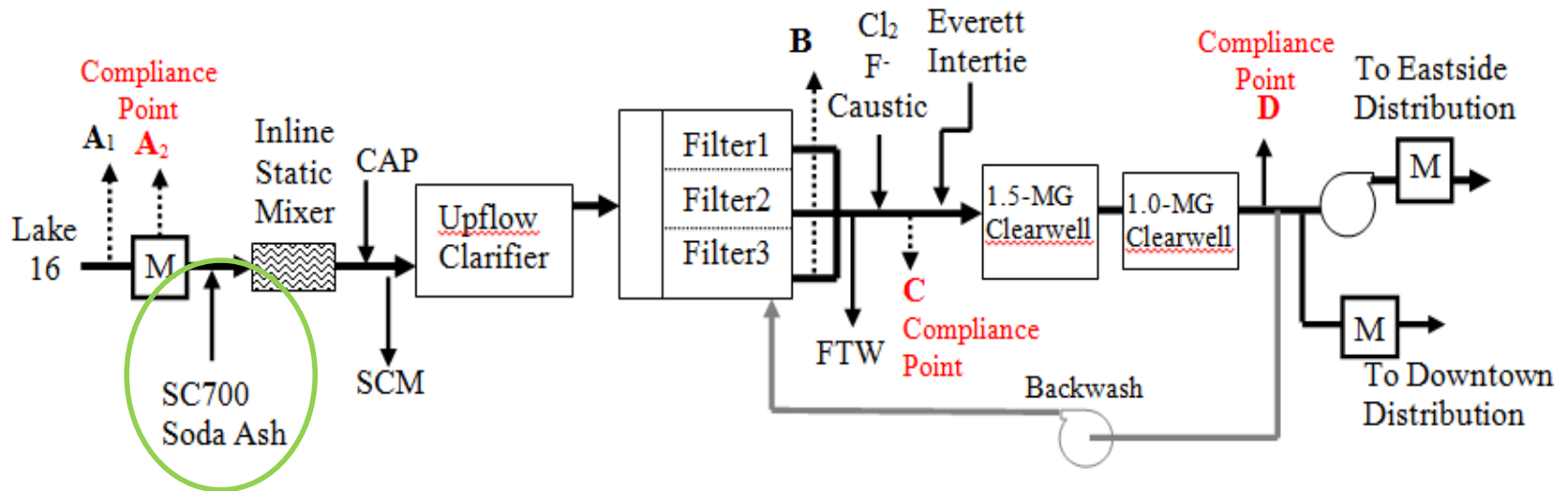
Maybe it's the alkalinity!

Alkalinity Jar Testing

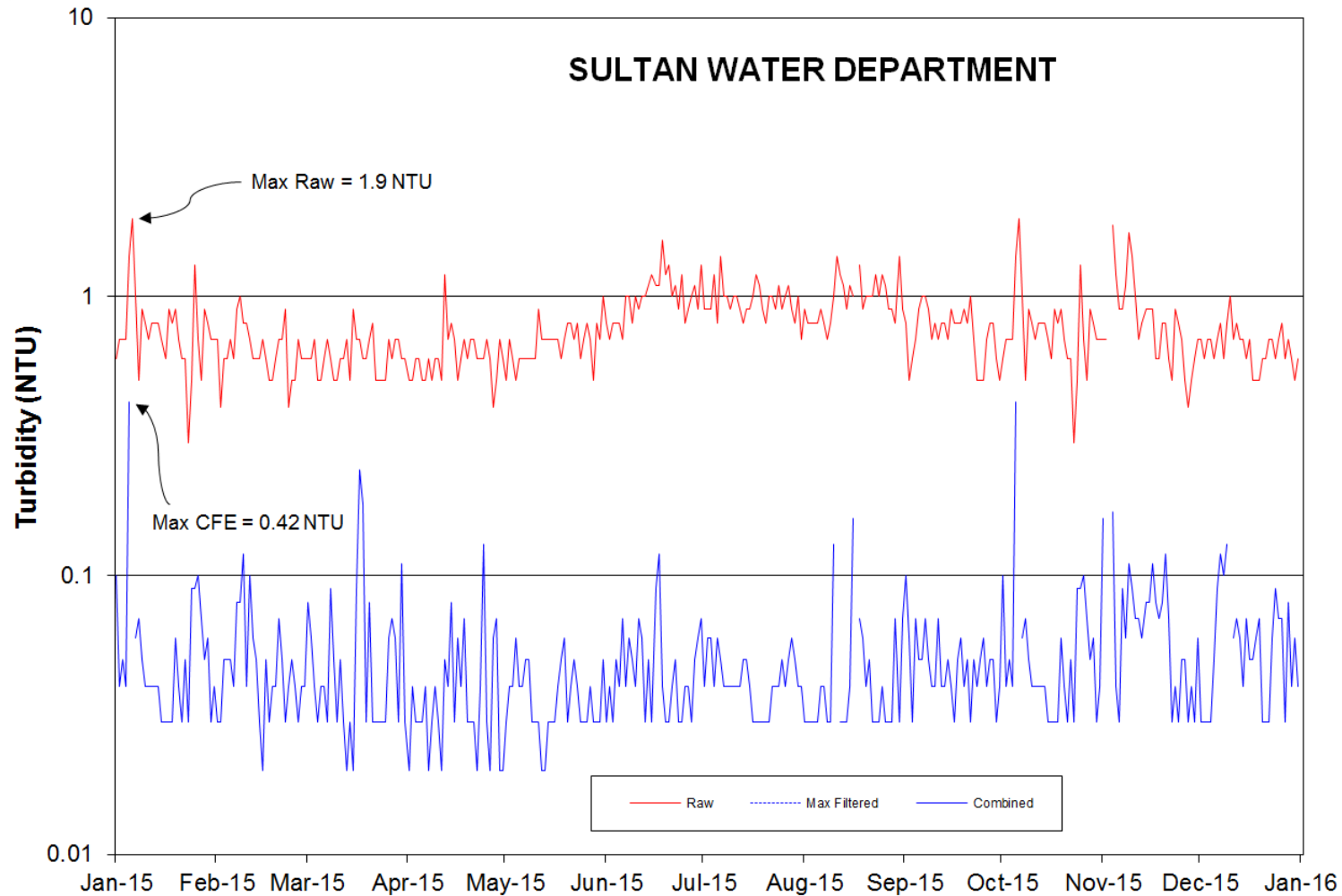
Coagulant Dose mg/L	Soda Ash (alkalinity) mg/L	Visual Floc formation
0.65	0 - 2	None to pin/small
	3	Medium
	4 - 5	Large
1.3	0 - 3	None to pin/small
	3.5 - 6	Medium
	7 - 10	Large

Treatment Changes

- New soda ash injection at entry to plant



2015 Turbidity



Questions?

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