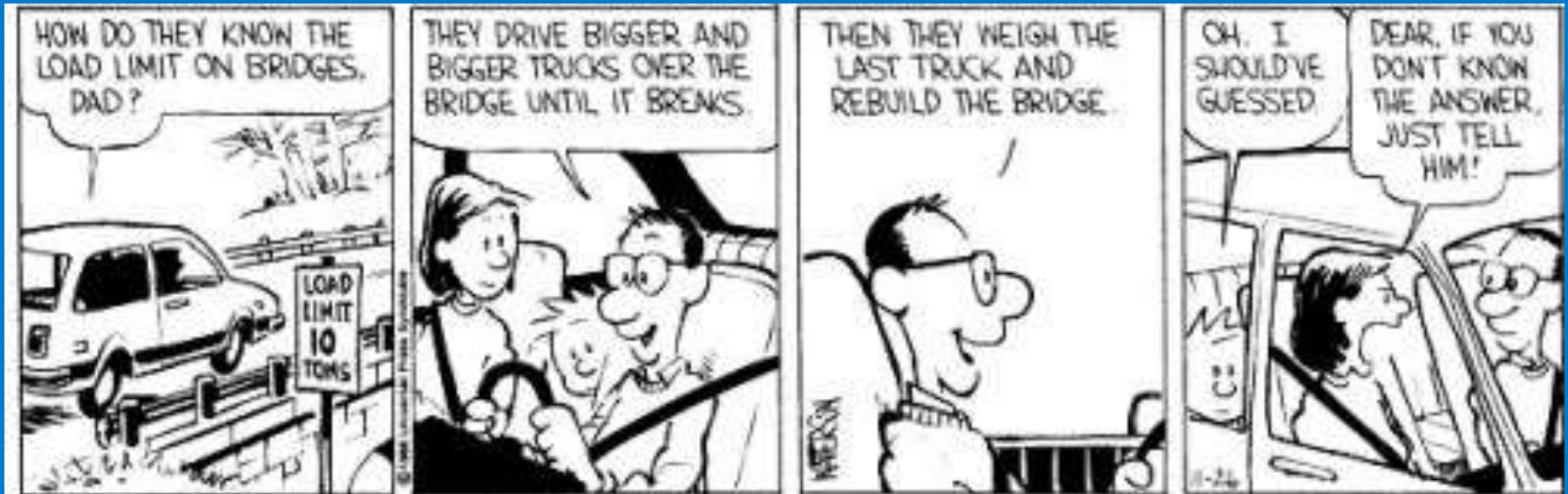


WVOA Annual Conference  
October 8, 2015

# Operator Tips and Tricks



Eric Lynne, PE

[elynne@donohue-associates.com](mailto:elynne@donohue-associates.com)





# Tips

## ➤ Webcam for Settleometer

MLSS = 3,070 mg/L

SVI = 81

UVT = 41.72%

SRT = 11.2/11.5 Days



2015-01-27, 12:56:45

2015-01-27, 13:26:45

2015-01-27, 13:56:46

2015-01-27, 14:56:47

2015-01-27, 15:56:47

MLSS = |

SVI =

UVT = 44.82%

SRT =



2015-01-28, 08:31:15

2015-01-28, 09:01:15

2015-01-28, 09:31:16

2015-01-28, 10:31:16

2015-01-28, 11:31:17

MLSS = 3,010 mg/L

SVI = 83

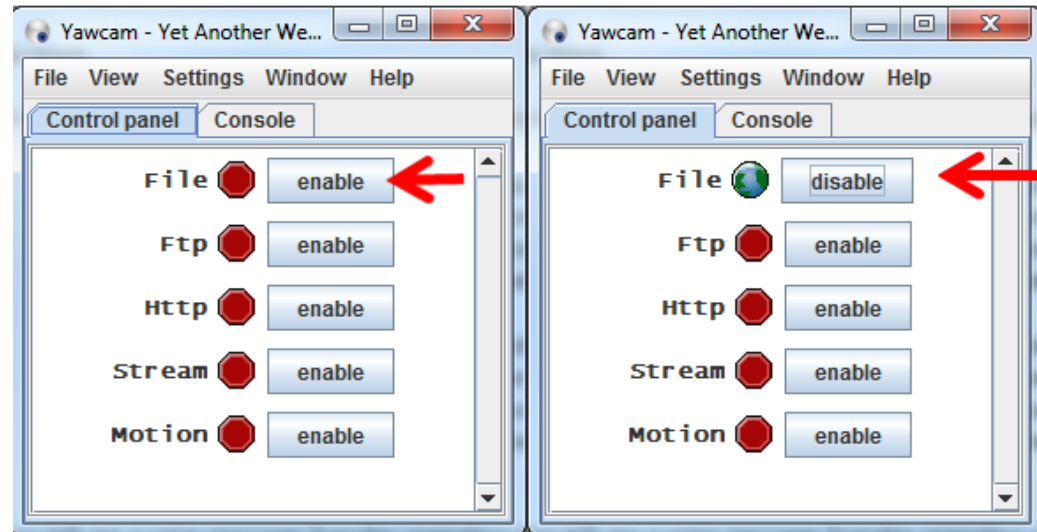
UVT = 43.54%

SRT = 13.2/12.0 Days

# Tips

## ➤ Webcam for Settleometer

- **Camera: Logitech c920 HD Pro Webcam ~ \$80**
- **Software: YAWCAM (Yet Another Webcam) Software ~ \$0 (freeware online)**
  - Configure to capture image at specific intervals (5 minutes)
  - Add timestamp to stay organized
  - 150KB each image to limit file storage size
- **Start of Settleometer: “Enable”**
  - No-Risk Multi-Task
- **End of Settleometer: “Disable”**



# Tips

- Ortho-P, suction hose for manual mode check of other process parameters (i.e., Filtrate)



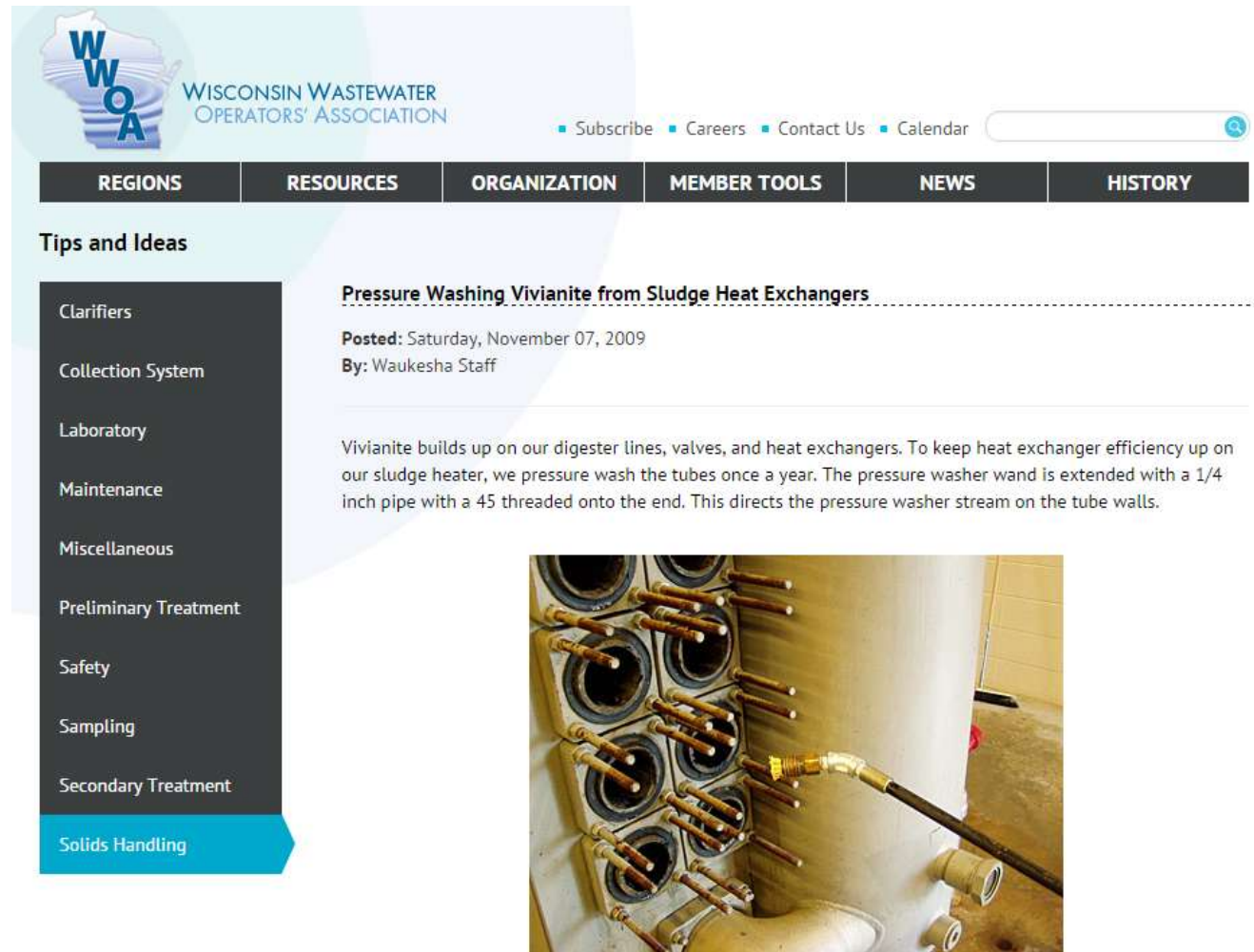
# Tips

- **Filter MLSS (at the basin) prior to solP test**



# Tips

## ➤ WWOA Website



The screenshot shows the WWOA website interface. At the top left is the WWOA logo, which consists of a stylized map of Wisconsin with the letters 'W', 'W', 'O', and 'A' stacked vertically. To the right of the logo is the text 'WISCONSIN WASTEWATER OPERATORS' ASSOCIATION'. Further right are links for 'Subscribe', 'Careers', 'Contact Us', and 'Calendar', followed by a search bar. Below this is a dark navigation bar with white text for 'REGIONS', 'RESOURCES', 'ORGANIZATION', 'MEMBER TOOLS', 'NEWS', and 'HISTORY'. The main content area is titled 'Tips and Ideas' and features a vertical sidebar on the left with a list of categories: Clarifiers, Collection System, Laboratory, Maintenance, Miscellaneous, Preliminary Treatment, Safety, Sampling, Secondary Treatment, and Solids Handling. The 'Solids Handling' category is highlighted in blue. The main article is titled 'Pressure Washing Vivianite from Sludge Heat Exchangers' and is dated Saturday, November 07, 2009, by Waukesha Staff. The article text describes how Vivianite builds up on digester lines, valves, and heat exchangers, and how it is removed using a pressure washer with a specific wand. Below the text is a photograph of a large industrial heat exchanger with multiple ports, some of which are being cleaned with a pressure washer wand.

**WWOA** WISCONSIN WASTEWATER OPERATORS' ASSOCIATION

■ Subscribe ■ Careers ■ Contact Us ■ Calendar

REGIONS RESOURCES ORGANIZATION MEMBER TOOLS NEWS HISTORY


### Tips and Ideas

- Clarifiers
- Collection System
- Laboratory
- Maintenance
- Miscellaneous
- Preliminary Treatment
- Safety
- Sampling
- Secondary Treatment
- Solids Handling

#### Pressure Washing Vivianite from Sludge Heat Exchangers

**Posted:** Saturday, November 07, 2009  
**By:** Waukesha Staff

Vivianite builds up on our digester lines, valves, and heat exchangers. To keep heat exchanger efficiency up on our sludge heater, we pressure wash the tubes once a year. The pressure washer wand is extended with a 1/4 inch pipe with a 45 threaded onto the end. This directs the pressure washer stream on the tube walls.



# Tips

- **Tom Crouse – Contractor wedged soap in pressure relief during leak testing**



# Tips

## NEW TIPS:

- **Struvite: Removal with heat gun, removes easier (chunks vs. granules)**
- **Sampling: Better sampling/flow devices (flap)**
- **Sampling: run yellow earplug through sampling lines weekly**
- **Screening: capture of scum balls on step screen, run in more than couple steps (5+ steps)**
- **Flushables: Marshfield/Beloit campaign slogan for source control, or add a screen**
- **Filters: Midge flies, fabric over the filters to keep the flies “in”**
- **Clarifier: Fabric 10% UV to stop algae growth**
  - **Algae Removal Techniques: fire-hose, scraper, hand brushed, covers**
- **Lift Stations: Grease removal, program pumps to drop wet well weekly, vac-truck, (don't use emulsifying chemicals)**
- **Digesters: Use SST piping for digester gas.**
- **Digesters: Run digester cleanout (struvite) through pista grit**
- **Sampling: Dorm fridge for quick refrigerator repairs**

## WANTED TIPS:

- **Screening: tip for removing rubber bands from screening bristles**

Flip through old ideas on website, collect ideas/photos to keep it going. WEFTEC submittals, or other WW ops associations

# Questions



Eric Lynne

[elynne@donohue-associates.com](mailto:elynne@donohue-associates.com)

507-383-5158