

# WATER TREATMENT TECHNOLOGY FOR INDUSTRIAL, COMMERCIAL & ENVIRONMENTAL APPLICATIONS

OCTOBER 2012 - WATER TREATMENT NEWSLETTER

## KWT CLEANING PROCESS RESTORED CHILLER EFFICIENCY AT OSU

Oklahoma State University Chiller Plant personnel found that one of their 4000 Ton chillers had lost efficiency. Their No. 6 chiller efficiency was approximately 15% less efficient than their No. 5 chiller. Bill Burton, OSU Manager of Utilities Production also noticed that the chiller condenser cooling water inlet pressure and the approach temperatures were higher for the No. 6 condenser. Everything pointed to fouling in the No. 6 chiller condenser. Sampling indicated that the deposit was primarily calcium carbonate.

OSU contracted with Kansas Water Technologies to chemically clean the condenser. OSU Power Plant Maintenance Foreman, Matt Driskell designed a unique piping arrangement to guarantee cleaning solution flow through all of the 4430 tubes in the bundle. KWT and OSU personnel designed a method to use the plant's hot water boiler and a heating coil to heat the cleaning solution. KWT applied their "Corrshield" inhibitor to protect the enhanced copper condenser tubes.

The result of the cleaning was the removal of 1200 pounds of calcium carbonate. The efficiency of the No. 6 chiller was restored to normal operating conditions. A followup Eddy Current test showed good tube cleanliness. For more information visit [www.kansaswatertech.com](http://www.kansaswatertech.com)



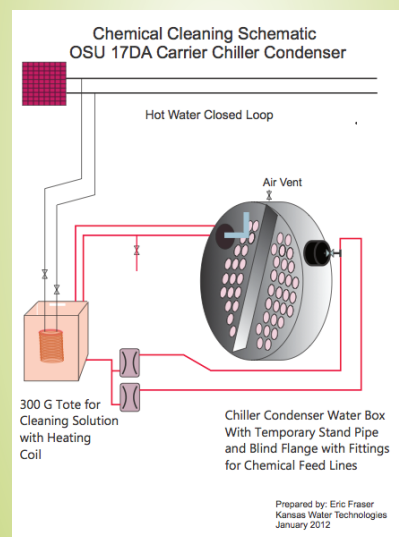
### FOR MORE INFO:



**Kansas Water Tech**  
[kansaswatertech.com](http://kansaswatertech.com)



**Remediation Services Co.**  
[remediation-services.com](http://remediation-services.com)



**Cleaning OSU Chiller  
Condenser- Schematic**

# WATER TREATMENT TECHNOLOGY FOR INDUSTRIAL, COMMERCIAL & ENVIRONMENTAL APPLICATIONS

OCTOBER 2012 - WATER TREATMENT NEWSLETTER

## REMOVAL OF TOXIC HEAVY METALS FROM GROUNDWATER AND WASTEWATER

Removing mercury, cadmium, nickel, lead, chromium, cobalt, copper or zinc from water streams has been increasingly challenging as regulations have tightened. Low levels of mercury found in power plant scrubber operation or refinery desalter operation are examples of this technical challenge.

Polymeric sulfides have been developed and been found to be useful in reacting with and settling heavy metals parcupitates in many wastestreams and groundwater. KWT's polymer supplier has introduced a polymeric sulfide product designed to react with and to precipitate heavy metal. If you would like more information on removal of heavy metals from water, review information about Metalsorb FZ on our website at [kansaswatertech.com](http://kansaswatertech.com) or [remediation-services.com](http://remediation-services.com)

## IMPROVE YOUR SOFTENER OPERATION

"Everything you need to know to monitor, troubleshoot and improve your water softener operation." AWT has published a softener operation worksheet. The Excel workbook includes sections on calculating softener capacity, surveying a softener system, elution studies and interpretation, trouble shooting softeners, resin analyses interpretation, salt solution properties and references. The workbook is available at our website at [www.kansaswatertech.com](http://www.kansaswatertech.com)



**Kansas Water Tech**  
[kansaswatertech.com](http://kansaswatertech.com)



**Remediation Services Co.**  
[remediation-services.com](http://remediation-services.com)

**NEED TO  
IMPROVE TOXIC  
HEAVY METAL  
REDUCTION IN YOUR  
GROUNDWATER  
OR WASTEWATER?**



**METALSORB FZ HAS  
ADVANTAGES OVER  
HYDROXIDE, SULFIDE  
& CARBAMATE  
PRECIPITATION.**

# WATER TREATMENT TECHNOLOGY FOR INDUSTRIAL, COMMERCIAL & ENVIRONMENTAL APPLICATIONS

OCTOBER 2012 - WATER TREATMENT NEWSLETTER

## RO TROUBLESHOOTING GUIDE TAKES GUESSWORK OUT OF DIAGNOSIS

Avista Technologies and KWT are working together to support regional RO system operators. Avista has published a helpful RO Troubleshooting Guide. The Guide is a summary of operating conditions which can help to diagnose the types of problems that can occur in RO systems. Using your normalized permeate flow, salt rejection and your pressure differential data you can use the guideline to identify the most likely cause of your system problems. The Troubleshooting guideline can be found at [www.kansaswatertech.com](http://www.kansaswatertech.com)

## WATER TREATMENT MATH

Calculating cooling tower, boiler and RO operating parameters are common math problems for water treatment professionals and system operators. Check out our comparison of the mathematical formulas associated with these three systems and save time in future calculations. The file "Water Treatment Math" can be found at our website [www.kansaswatertech.com](http://www.kansaswatertech.com)



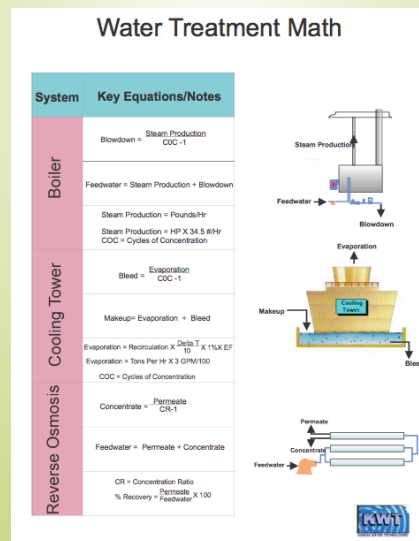
**Kansas Water Tech**  
[kansaswatertech.com](http://kansaswatertech.com)



**Remediation Services Co.**  
[remediation-services.com](http://remediation-services.com)



REVERSE OSMOSIS SKIDS



WATER TREATMENT  
MATH SUMMARY