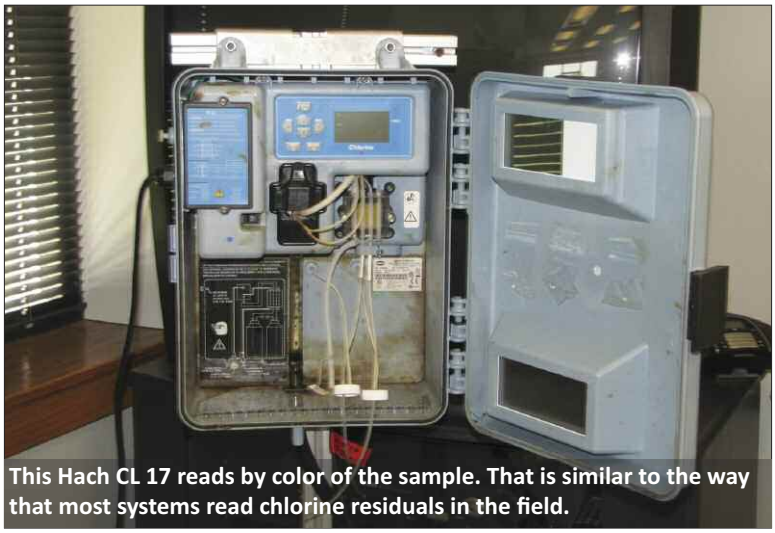
By Bret Beye, Technical Assistant

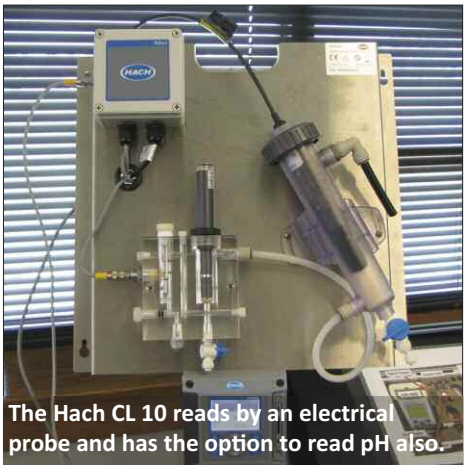
Use Proper Sampling Techniques to Get Accurate Results


This Hach CL 17 reads by color of the sample. That is similar to the way that most systems read chlorine residuals in the field.

At a recent training that KRWA sponsored, the attendees learned the five steps of analysis for water sampling. The presenter of the class was Alex Rossman with Hach Company. He brought with him two kinds of lab equipment that monitors chlorine automatically. He also explained the benefits of both units and how to perform maintenance. Before I go much further I need to comment that although Hach is a commonly used brand, it is by no means the only brand of chlorine analyzer. KRWA does not endorse any product over another. Everyone needs to take the time to investigate what tools that they need to perform their responsibilities.

The five steps of analysis are:

- Sampling and sample preservation
- Sample preparation
- Use of standards
- Procedure
- Calculations and interpretation.


The Hach CL 10 reads by an electrical probe and has the option to read pH also.

If you perform these five steps properly you should get proper and accurate test results every time.

The sample should always be representative of the site to be sampled. It may be necessary to take grab samples from several places and mix them together. The sample is usually the greatest limiting factor in obtaining a true or representative result. The analysis is only as good as the sample. Some testing must be conducted onsite and some can be performed at the system's lab. If it is necessary to transport the sample, does it need to be protected from light or stored at a certain temperature? Different tests may require filtration, dilution, distillation, digestion, and pH adjustment.

When was the last time that you verified that your equipment was accurate, or the instrument was calibrated correctly? Primary standards can be used for both calibration and accuracy. It is also another way to check if you are performing the test correctly. Secondary standards are for calibration verification only.

Always make sure that the test you are performing is the proper test procedure for the results anticipated. After you have the results were they what you expected? Usually a test was run because there was a question as to what the sample contains. Was the answer found? What does the answer mean? Interpretation of the results is relative to the investigation.

KRWA is sponsoring Hach training for another day in October at Hays and another day at Dodge City. KRWA underwrites the cost of this training. The class size is very limited. So, I encourage anyone who is interested to check the KRWA website and register early.

And as always, if anyone has a need for some special training call me, other KRWA staff or call or email to the KRWA office. KRWA looks forward to providing the information that the Association members want.

Bret Beye joined the KRWA staff in March 2017. He previously worked for 30 years at the city of Herington where he was Water Distribution and Sewer Collection Foreman. A Class III water operator and certified as a backflow device technician, Bret also served on the USD 487 Board of Education from 2003 to April 2017 where he was board president and vice-president.