



Taking A Distribution Chlorine Residual Sample Properly

The reason you need to take a Distribution Chlorine Residual sample is to ensure that your system has enough chlorine in the treatment system to properly continue to disinfect the distribution system.

①  **Where do you take the sample?** The sample must be taken within the distribution system of your PWS. If you take it before the distribution system you will not get an accurate reading. The sample MUST be taken at the same tap that you take the Bacti sample.

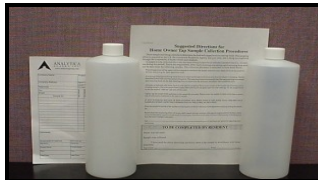
②  **When are you supposed to take the sample?** The sample must be taken at the same location and time as the Bacti sample

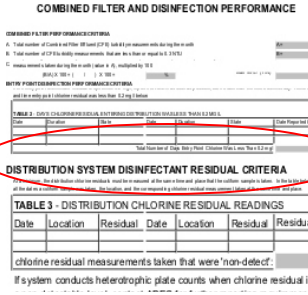
③ **Why**
The free Chlorine Residual in the distribution system provides additional protection against waterborne diseases should contamination enter the distribution system. It also tells you if you have used enough chlorine to make sure that the initial treatment is sufficient. If there is no residual, then whatever was added for treatment was completely used up and there was not enough chlorine to complete the disinfection process.

④ **How**
Chlorine Residual samples cannot be stored or transported. They must be tested within 10 minutes of collection. You should use a HACH Chlorine Test Kit with a DR spectrophotometer or the Color Comparator method. If you use the spectrophotometer, check to see that you're in the proper mode (for residuals in the 0-2.00 mg/L use the low range check to change modes-consult the manual when in doubt).

⑤ **How Cont'd**
HACH Chlorine Test Kit: Fill the container with 10 ml of sample. Add the DPD reagent (free powder pillow, not the total pillows). Screw on cap and shake. Place the sample in the instrument, making sure the outside of the sample bottle is free of any liquid or dirt. Arrange the sample bottle so that the white diamond is facing you. Within one minute after adding the reagent place the mixed sample into the cell holder. Place the instrument cap over the sample, the cap should fit snugly. The results will appear shortly and are given in mg/L.

⑥ **How Cont'd**
Color Comparator: Clean comparator cells periodically with hot soapy water and a soft brush, rinse with distilled water, and drain dry. Rinse the cell with the sample each time you use it. Place 5 ml of sample in the left hand cell. Place 5 ml of sample in the right hand cell. Add contents of powder pillow to right hand cell. Put in the stoppers and stir by swirling. Wait 30 seconds and read color within one minute. Read the test results on the scale at the bottom of the comparator. Rinse each tube twice with distilled water and drain to be ready for the next sample.

⑦  **How to report the Distribution Chlorine Residual Result.** The result needs to be put on both the Operator Report and on the paperwork that is submitted to the lab with the Bacti sample. You may put the chlorine residual results anywhere on the lab submittal form; the lab will forward the information to the DW Program with their report.

⑧  **Where do you write your results?** Please report your results on the operator form in the space provided, and write neatly, please.

Always make sure the sample is taken at the same time and location you take your Bacti Sample.

