Automatic Temperature Compensator Check – Conductivity (NC WW/GW LC Policy 02/2006)

The internal Automatic Temperature Compensator (ATC) must be verified every 12 months and the process documented. Other certified laboratories may provide assistance in meeting this requirement. The ATC must be verified by analyzing a standard at 25°C (the temperature that conductivity values are compensated to) and a temperature(s) that brackets the temperature ranges of the samples to be analyzed. This may require the analysis of a third temperature reading that is > 25°C.

Automatic Temperature Compensator (ATC) Check for the conductivity meter:

1. Pour an adequate amount of conductivity standard into a beaker or other container and analyze at 25°C. Document the temperature and conductivity value.

2. Lower the temperature of the standard by placing the container in cool water or a refrigerator to less than the lowest anticipated sample temperature and analyze. Document the temperature and conductivity value.

3. If samples greater than 25°C are to be analyzed, perform the following additional step: Place the container in warm water or a water bath and raise the temperature above 25°C to greater than the highest anticipated sample temperature and analyze. Document the temperature and conductivity value.

As the temperature increases or decreases, the value of the conductivity standard must be within ± 10% of the true value of the standard.

Anticipated temperatures can be obtained from a review of the Discharge Monitoring Reports (DMRs) from the peak summer and winter months. Historical data should provide a reasonably accurate estimation of ranges that will bracket the expected sample temperatures.