The Model CCK Corrosion Control Kit tests for Alkalinity, Calcium Hardness, Phosphate, pH, and TDS. This outfit was designed specifically for field testing purposes. In order to check the performance and accuracy of the equipment it is recommended that the equipment be checked against reference standards. Routine performance checks will enable the operator to keep track of the accuracy and be able to address any problems in the testing methods or the equipment, and guarantee that the performance specifications are being achieved.

The age of the reagents can be determined from the lot number, a 6 or 7 digit number found on the reagent bottle. Only the first three digits are important. The first two digits refer to the week of the year. The third digit refers to the last digit of the year. For example: 064 would refer to the middle week in February 1994.

To determine the performance, check for Alkalinity, Calcium Hardness, and Phosphate (concentrated standard solutions are available for each analyte). The operator simply dilutes the concentrate using good laboratory practices to a level which can be correctly tested by the method provided. The concentrated standards are made according to APHA or EPA specifications, and use reagent grade chemicals to provide the necessary analyte in a stabilized chemical form.

The electrometric methods for measuring pH and TDS are subjected to the same type of performance test. The pH Tester is checked against a standard buffer solution that is provided with the kit. This buffer is prepared from salts that are traceable to NIST buffers. The TDS solutions are also prepared from salts that are traceable to NIST.

To conduct performance tests on the equipment and the methods based on the reference standards, the following recommended procedures are provided:

**ALKALINITY STANDARD • CODE 5168**

Fill 100 mL volumetric flask to 1/2 volume with Deionized water. Use pipet to dispense 1.0 mL of standard into flask. Dilute to volume and mix. Diluted standard = 100 ppm Total Alkalinity

**CALCIUM HARDNESS STANDARD • CODE 6185**

Fill 100 mL volumetric flask to 1/2 volume with Deionized water. Use pipet to dispense 10 mL of standard into flask. Dilute to volume and mix. Diluted standard = 100 ppm Calcium Hardness

**PHOSPHATE STANDARD • CODE 6184**

Prepare two, 100 mL volumetric flasks by filling to 1/2 volume with distilled water. Use pipet to dispense 10 mL of standard to first flask to flask. Dilute to volume and mix. Use another pipet to dispense 6 mL from first flask into second flask. Dilute to volume and mix. Diluted standard = 6 ppm Phosphate

**pH BUFFER 7.0 • CODE 2881**

pH Buffer 7.0 is provided with each kit and should be used periodically to check the performance of the tester. Other buffer solutions can be provided to cover different pH ranges of interest.

**TDS**

TDS solutions can be selected from a list of different strengths:

- 74 MMHOS 52 ppm – Code 6416
- 718 MMHOS 503 ppm – Code 6417
- 1413 MMHOS 989 – Code 6354

Following the instructions for the tester, periodically check the response of the tester to guarantee proper performance.

**TEMPERATURE**

The kit Thermometer (Code 1066) should be periodically checked against a reference thermometer that is NIST certified. Any deviation from the reference temperature should be noted.

It is a good practice and highly recommended that the operator keep a journal or log of all performance test results: dates tested, and age of all the reagents used in the tests. See suggested Log Form.