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## SUMMARY OF THE TESTS

**Temperature:** Water and air temperature are measured with a shielded Celsius thermometer.

**pH:** A relative measure of alkalinity/acidity. This test uses liquid reagent and a color comparator.

**Dissolved Oxygen (DO):** A measure of the amount of oxygen dissolved in water. This test uses a two-step procedure. In the first step, the sample is "fixed"; in the second, it is titrated to determine the level of DO in parts per million (ppm). The samples must be pH neutralized with an alkaline solution before disposal.

**Biochemical Oxygen Demand (BOD):** A measure of the oxygen-consuming organic matter in a water sample. The testing procedure for BOD is the same as for DO, except that the DO sample is fixed in the field then titrated immediately, while the BOD sample is left unfixed and stored for five days in the dark at room temperature. After five days, the sample is fixed and titrated. The results of the test are subtracted from the oxygen level found in the DO test, and the difference is BOD.

**Nitrates:** A measure of a common nutrient. In this test, several reagents are added to the sample. After twelve minutes of waiting time, the tester uses a color comparator to determine the level of nitrates in parts per million (ppm). The tested samples contain a cadmium residue and must be stored in a special container and returned to the MWRA for proper disposal.

**Total Dissolved Solids (TDS) and Salinity:** A measure of dissolved solids in a water sample. The test uses a digital meter that measures "micromhos," a measure of electrical conductivity. When measuring TDS (fresh water only), the meter reading must be multiplied by .5, which is a standard conversion factor. When measuring the salinity of sea water or brackish water, the sample must first be diluted with demineralized water; then the meter reading is multiplied by the level of dilution and the standard conversion factor.

**Turbidity:** A measure of water's cloudiness. This test measures turbidity by comparing a turbid sample to a clear sample, then adding drops of a special clouding solution to the clear sample until it appears as cloudy as the turbid sample. The results are measured in Jackson Turbidity Units (JTUs).

**Total Coliform Bacteria:** A simple presumptive test of the presence of total coliform bacteria. The test uses a lactose broth that changes color from purple to yellow after 48-hours of room-temperature incubation if coliform bacteria are present.