# Appendix BB
# Instructions for Quality Control of Deionized Water:

## Bacteria Measurement Instructions:

**Summary:** Bacteria is measured by dispensing 100 μL on a Tryptic Soy Agar (TSA) plate and incubating for 48 hours at 35°C. The results are recorded on the laboratory log sheets.

**Plating Instructions**:

- Sterilize nozzle with 10% bleach for 5 minutes, neutralize for 1 minute in sterile working sodium thiosulfate solution (0.025%), and rinse for 1 minute in sterile deionized water
- Run water for 30 seconds
- Collect 100mL of water in a sterile beaker.
- Dispense 100 μL on two TSA plate. Flame sterilize a glass spreader.
- Spread the water over plates with the sterile glass spreader.
- Invert plates and incubate for 48 hours at 35°C.
- Remove plate and count and record results in QC manual.

**Acceptance criteria:** MilliQ water = < 1col/ ml (USEPA, APHA)

## Instructions for Turbidity QC checks for DI Water:

**Summary:** Turbidity is measured by taking two aliquots from each water sample and recording these values on a laboratory sheet. The two measurements must agree within 10 percent.

**Check the instruement calibration daily**: The instrument is calibrated with formazin yearly. Check the readings of the Gelex standards.

- Press I/O to turn the instrument on.
- Clean the outside of the Gelex vials using a drop of silicone oil and a lent-free cloth.
- Read the three Gelex standards and record the results in the calibration book.
- If a reading is not within 5% of the value established using the Formazin standards (as recorded in the calibration book), the instrument needs to be recalibrated using formazin standards.

**Read the sample:**

- Wash the cell with laboratory soap, if necessary, then rinse the cell with deionized water.
- Shake the sample well.
- Immediately after shaking, remove 25 mL from the center of the sample bottle and fill the cell to the line.
- Place the lid on the cell.

- Hold the cell by the lid. Wipe the outside of the cell with silicon oil and a lint-free cloth.
- Invert the sample gently a few times and place the sample in turbidimeter. Orient the cell in the compartment so that the diamond-mark on the cell aligns with the raised orientation mark on the front of the cell compartment.
- Close the turbidimeter over.
- Take the measurement by pressing READ.
- Discard the first aliquot and repeat. The two measuremtns must agree within 0.5 NTU for DI water samples. If necessary, continue taking measurements.
- Record the two turbidity values within 0.5 NTU.
- Don't leave the sample cell in the cell compartment for extended periods of time (this compresses the spring in the cell holder).

## Instructions for Specific Conductance QC checks for DI Water:

**Summary:** Specific conductance is measured by rinsing a container with the water being tested, filling the container with the water, letting it sit for 5 minutes, and then reading the specific conductance of the water in duplicate.

**Instructions**:

- Rinse a clean 250-mL beaker with water to be tested.
- Fill the beaker with the water to be tested.
- Let sit for five minutes.
- Empty the beaker and refill it with water to be tested.
- Immerse the specific conductance probe into the beaker without touching the sides or bottom.
- Record the results.
- Repeat.