

Public Bathing Places

Sampling and Laboratory Requirements Q & A

How are water samples collected for bacteria analysis?

Beaches

- Sample must be taken at depth of approximately 30 inches **and**
- Sample must be taken at midpoint between water surface and bottom
- Each sample must be tested individually for E. coli

Pools

- Swimming pools, specialty pools and spas or hot tubs take water samples from area of average depth

When is a beach contaminated? Pool or spa?

Beaches

- Foreign/hazardous substance is (or may be) discharged into water
- E. coli density >235 colonies/100ml
- E. coli density >126 colonies/100ml for any 30-day geometric mean

Pools/Spas

Multi-tube fermentation technique

- More than one 10ml portion of sample tests positive for coliforms
- Two consecutive samples test positive for coliforms in any 10ml portion
- Two of any 10 consecutive samples test positive for coliforms in any 10ml portion

Membrane filtration test

- More than one colony/50ml sample (**more than 2 colonies/100ml sample**)

Use of Approved methods according to Drinking Water matrix laboratory accreditation

How do you close a beach?

- Post signs prominently at **all** entrances
 - Signs must be at least 8"x11" in size
 - Signs must say "Beach is Closed"
 - Signs must say "Swimming Prohibited"

How often should water be tested?

- Sample within one week **before** opening for season
- Sample once a week during period of maximum use (a day the unit is open)
- Department of Health (DOH) may require additional samples based on size, bather load, weather conditions, bacteriological history or other factors that may influence water quality
- Lake Erie Beaches have additional requirements
 - Three samples per beach – one taken 50 feet from each end and one in the center
 - Arithmetic mean of three samples used to determine contamination
 - No sampling when beach is closed due to high wave activity
 - Erie County Department of Health may impose additional requirements

Who can test water?

- Competent personnel at a drinking water lab registered and accredited by the Pennsylvania Department of Environmental Protection. Drinking water matrix accreditation with approved methods.

What method is used to test water?

- Testing of water shall be performed according to the procedures published in ***Standard Methods for Examination of Water & Wastewater, 20th edition***, or as amended, or
- Other approved Environmental Protection Agency (EPA) method for E. coli
- The laboratory shall document the method used in completing analysis of samples and make documentation available to DOH upon request

What notification requirement is there for test results above regulatory limit?

- The lab conducting the test is required to notify the DOH within 24 hours of result availability. (Lab must report to appropriate DOH District Office or local health department).
- Lab should report to their client immediately or ASAP
- E-mail notification to DOH preferred - include facility name and location, unit sampled, date of sample and date analyzed, results, and client contact information including the nature of the communication.

What should be done if the sample exceeds the regulatory limit?

Beaches

- The beach shall be closed until the operator has received written authorization from DOH to reopen
- Resample immediately**
- Investigate reason for exceedance and document
- Notify DOH or local health department of new result
- Receive written authorization from DOH/local health department to reopen beach

Pools

- Investigate reason for exceedance and document
- Check disinfectant level and pH (recommend pH 7.2 to 7.6, chlorine 2-4 ppm)
- Cyanuric acid not above 15 ppm, combined chlorine not above .2 ppm
- Raise chlorine to 5-10 ppm for 30 minutes
- Do not allow re-entry to pool until less than 5 ppm free chlorine, not below 1ppm
- Recommend resampling immediately after corrections are made**
- Document all events and actions taken

** Note: Re-sampling may require special arrangements with the lab responsible for testing (e.g., holidays, weekends)

Reference: Operational and Biological Contamination Protocol Recommendations, November 1, 2016.

What is the record keeping requirement?

- All bacteriological testing reports shall be maintained by the permittee for two years and made available to DOH upon request