



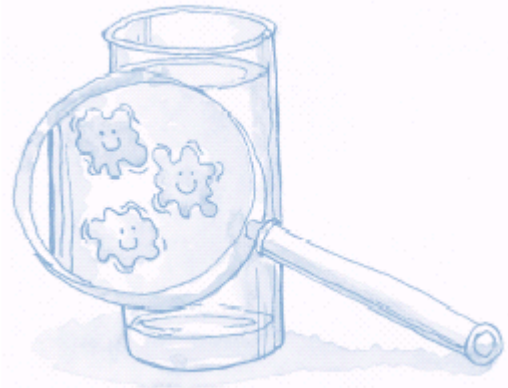
## Drinking Water Samples for Bacteriological Analysis

### Background

Many different pathogens may be present in water. It is not practical to test for them individually. Instead, we rely on monitoring for indicator organisms. The indicator organisms used for monitoring drinking water are total coliforms, and *Escherichia coli* (E.-coli). Total coliforms are a group of closely related bacteria that are generally harmless. They are natural and common inhabitants of the soil and ambient waters (such as lakes and rivers). They are usually not found in ground water that is free of surface water or fecal contaminants. Total coliforms are inactivated by treatment or die off naturally in a manner similar to most bacterial pathogens and many viral pathogens. *Therefore, if total coliforms are found in the distribution system, pathogens could also be present.*

### Sampling Procedure

1. Proper sample containers must be obtained at the lab prior to sampling. Samples taken in unapproved containers will not be accepted.
2. Do not use container if seal is broken before opening.
3. Remove plastic seal and discard it.
4. Do not rinse container out.
5. Do not touch lip or inside of container or lid.
6. Select a point where sample will be representative.
7. Collection from standing water (pools, tanks etc.):
  - a. Submerge the container and push forward with slow even motion, so that sample is taken with a single stroke.
  - b. Fill container to slightly above the 100mL Fill Line.
  - c. Close container securely without touching lip.
8. Collection from a tap or faucet:
  - a. Remove screen from faucet.
  - b. Sterilize if necessary (especially outside taps).
  - c. Run water for 3 to 6 minutes.
  - d. Fill container to slightly above the 100mL Fill Line.
  - e. Close container securely without touching lip.
9. Keep samples cool prior to delivery. *Do not freeze*



### Sample Hold Time

Samples must be analyzed within 30 hours of collection to be considered valid. Deliver samples to lab ASAP or make prior arrangements to ensure that hold times are not exceeded. Samples that have exceeded the hold time will not be accepted.

### Sample Receiving

Samples are received Monday through Friday from 8 AM to 5 PM. All samples must have a submittal form that is completely filled out. Submittal forms may be downloaded in PDF format at [www.timpview.com](http://www.timpview.com). If you need help completing the form, ask lab personnel for assistance. To ensure that reporting requirements are met, the submittal form must be marked with the correct sample type. See below for more information on sample types.

### Sample Types

*Note: Sample type may not be changed (routine to investigative or vice versa) after results have been obtained.*

**Routine:** For reporting to the Utah Division of Drinking Water to satisfy routine monthly monitoring requirements for a drinking water system. Timpview automatically reports routine samples to the State before the 10<sup>th</sup> of the following month. A valid drinking water system number must be on file at Timpview in order for routine samples to be reported correctly. If you do not know your system number, contact the laboratory or the State.

*Investigative:* Not reported to the Division of Drinking Water by Timpview. For non-routine investigative monitoring, contamination checks, disinfection of newly installed water lines, etc. Customer is responsible for reporting the results to the proper authorities if necessary.

*Repeat Sample:* Repeat for coliform positive routine sample taken previously. The lab number of the previous sample must be recorded on the submittal form. Repeat samples require full chain of custody documentation.

## **Results and Reporting**

You will be notified of coliform positive results by telephone on the following business day (usually within 25 hours of receipt by the lab). Coliform negative results are not reported by telephone unless prior arrangements are made. Results may be faxed by request. Report forms and the associated invoices will be mailed at the beginning of the following month. Routine sample results will also be reported to the Utah Division of Drinking Water prior to the 10<sup>th</sup> of the following month.

## **Coliform Positive Samples**

Coliform positive samples are automatically analyzed for E.-Coli.

If any routine sample tests positive for total coliform you must:

- Collect a set of repeat samples within 24 hours of notification.  
Systems serving populations of 1,000 or less must collect 4 repeat samples per positive sample. Larger systems need only collect 3 repeat samples per positive sample.
- Collect a minimum of 5 routine samples the following month.

## **Repeat Sample Locations**

- 1 from the original sample site
- 1 within 5 service connections upstream
- 1 within 5 service connections downstream
- If a fourth is required, it should be collected wherever it would best help identify the source of contamination.

## **Notifying the State**

- If a total coliform positive routine sample is followed by an E.-coli positive repeat sample (or an E.-coli positive routine sample is followed by a total coliform positive repeat sample) an Acute MCL violation exists. You must notify the Division of Drinking Water at (801) 536-4200 by the end of the day you are notified.
- If more than one sample in the month is total coliform positive, a monthly Non-acute MCL violation exists. You must notify the Division of Drinking Water at (801) 536-4200 by the end of the next business day.

## **Additional Information**

Additional information and answers to specific questions may be obtained from the following sources:

- Timpview Analytical Laboratories (801) 229-2282
- Utah Division of Drinking Water (801) 536-4200
- “A Small System’s Guide to the Total Coliform Rule”- a simple self-help workbook published by the EPA. Although this booklet is designed for small systems, the information applies uniformly for all public water systems. An electronic copy (PDF format) may be downloaded at [www.timpview.com](http://www.timpview.com). Printed copies are also available from the laboratory.

The rules of the Utah Division of Drinking Water do not pertain to systems serving fewer than 15 connections or 25 people. However, some local health departments do have rules pertaining to private water supplies. Contact your local health department for more information.