

TUSCARAWAS COUNTY GENERAL HEALTH DISTRICT

Water Sampling Procedures

Purpose: The purpose of this procedure is to describe the process for documentation, collection, submission of specimen when a water sample is required.

Procedure: Water samples may be collected on weekdays between 9:30 a.m. and 3:00 p.m. With supervisor approval, these times may be extended and alternate schedules may be approved to accommodate the public. Water samples collected Monday through Thursday may be brought to the laboratory.

Normally, samples will not be collected until payment has been processed by the health department. The office support person who receives the request, enters it in the computer, processes the payment, and places the inspection report on the inspector's desk.

The water supply system must be completely flushed of all chlorine at least 48 hours prior to sampling.

Chlorine Screening:

Private water systems shall be screened for chlorine residual. Total chlorine test strips shall be used to determine the presence of residual chlorine.

- Dip one test strip into a test-designated container filled with a water sample with constant back-and-forth motion for 10 seconds.
- Remove the strip and wait 30 seconds.
- Then, view through the aperture to match with closest color on the method B chart shown on the test strip bottle.
- Complete color match within 15 seconds. Record screening results on the inspection sheet.



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If chlorine is non-detectable, record the amount as “negative” on the inspection form. If 0.05 ppm or higher is found, the bacteria sample may not be drawn (unless the system has a continuous disinfection system using chlorine as a disinfectant or it uses hauled, chlorinated, municipal source water.) When chlorine is present and the sample consequently is not taken, a resample should be scheduled following the above-mentioned guidelines. At the sanitarian’s discretion, a resample fee may be charged for rescheduling because of chlorine residual.

Nitrate Screening:

Each private water system shall be screened for nitrates. However, nitrate screening is not necessary on a resample request.)

- Dip one test strip into a designated test container filled with a water sample for 2 seconds.
- Remove, wait 1 minute, and match nitrate/Nitrite (end pad) and Nitrate colors.
- Complete color match within 1 minute.

Record screening results on inspection sheet. If nitrates are non-detectable, record the amount as “< 0.5 ppm” on the inspection form. If 5.0 ppm or higher result is obtained then another sample may be drawn in a nitrate sample bottle for laboratory analysis and the Chain of Custody lab slip must be completed. Record, on the inspection sheet that a sample was taken for nitrate analysis. Also leave a copy of the EH approved educational literature about nitrates for the resident. When received by lab, report the results to the owner by phone and by mail.

Total Coliform (TC) Testing:

The initial sample will be collected from the sample tap for newly permitted PWS or the location closest to the point of human consumption (usually the kitchen sink.) for Point of Sale inspections. Water samples must be collected in the sterile bottle provided by the lab.

- The aerator on the tap is to be removed, if possible, by hand.
- The tap at which the sample is to be taken must be disinfected by spraying a 400 ppm quaternary ammonium solution on the threaded area of the spigot and inside the tap opening.
- The solution should set on the spigot for a minimum of one minute.
- The tap should be turned on to full pressure, reducing flow if needed to prevent excess splattering.

- Run the water for ten minutes then reduce the flow of water to approximately a pencil width.
- Allow water to run for a minimum of 5 more minutes longer (minimum of 15 minutes total.) In the case of a cistern or spring, purge enough water to remove all water standing in the distribution system prior to collecting the sample.
- Fill the sample bottle to above the 100 ml level on the bottle, but do not allow it to overflow.
- Do not touch the threads of the bottle or the inside of the cap or bottle.
- Do not allow the water to splash from sink into the bottle or cap while purging the system.
- Do not rinse the bottle before the sample is taken.
- When taking the sample, make sure the entire stream of water flows inside the bottle. Do not sample a partial stream of water, do not collect a composite sample (filling the bottle from multiple taps)
- After the sample is taken secure the cap to the bottle.
- Fill out the proper information on the Microbiological Drinking Water Sample Identification Sheet (if sample is tied to a permit, write the permit number on the PWS ID line.)
- With permanent marker label the lid with the address # of the sample location.
- Place the sample bottle in the designated cooler with ice pack.

Inspect the well head to ensure the top of the casing is a minimum of 12 inches above final grade and to ensure that the cap is secured to the well casing and electrical conduit. Inspect the pump/pressure tank to ensure that the inspection port is installed a minimum of 8 inches above floor level at or before the tank.

Samples must be taken to the lab for testing within thirty hours of sampling. The Lab will fax the water sample results to the health department where administrative support will process and forward results to the sanitarian. Homeowners will be phoned by the sampling sanitarian if the sample is TC positive with instructions on water consumption and chlorination. If additionally, sample was E. coli positive, the owner/resident should be told that this may indicate a more serious contamination. All persons will be notified of the sample results by mail.

When total coliform or e-coli bacteria are found in the first sample, the second sample and subsequent samples will be collected at or prior to the pressure tank. We are required to report all e-coli positive samples to ODH, therefore, provide a copy of each e-coli positive report to the supervisor.

Water Sampling Kit Contents:

Cooler & Ice pack(s)

Two pump-spray bottles filled with quaternary ammonium germicide
 Chlorine test strips
 Nitrate test strips
 TC bottles (be sure to always have extra bottles)
 Nitrate bottles
 Rubber bands
 Permanent marker
 Pen
 Lab slips (note: different slips are used for TC and Nitrate)

Literature:

Only educational literature approved by the EH Division may be given to the public.

Revision Page		
Date	Revision	Responsible Party
4/25/17	Created	EH Director
5/10/2017	Approved	Board of Health