

RECOMMENDED Water Quality Sampling Plan

Using a Certified Water Testing lab, it is recommended to get a baseline Bacteriological Standard Plate Count water sample from the recommended sampling sites should include but not be limited to:

- One water sample of the inlet of the heating system(s)
- One water sample of the outlet of the heating system(s)
- One sample of the inlet of the cold water supply

Sampling should be done at least monthly or if/when control measures fail (temp,pH, chlorine), new construction or physical changes to the facility have been made.

If these locations have a count above 500 bacteria then disinfect/chlorinate then repeat plate count to see if still elevated before looking at Legionella test.

If a potable hot/cold water sampling plan is required as a result of disease, or is done as part of a routine environmental assessment, the recommended sampling sites should include but not be limited to:

- One water sample of the inlet of the heating system(s)
- One water sample of the outlet of the heating system(s)
- One sample of the inlet of the cold water supply
- Floors that housed ill patients/residents, as well as additional floors, should be sampled. Three samples should be collected from each floor. This is normally done in the following fashion:
 - Tap closest to first delivery of hot water from the riser
 - One sample from the middle of the system
 - One sample from the last outlet before the water returns to heaters
- Where multiple risers supply hot water to a limited number of rooms from a circulation loop, several locations corresponding to the loop should be sampled.
- One additional random sample should be collected from each floor when wings have extensive lengths of piping and complex paths.

NOTE: Depending on risks and ill patient possible exposure, may need to look at equipment. Ice machine, hydrotherapy, sinks/showers etc.

Sampling Technique

Sample bottles, and or culture swabs should be from a certified testing lab.

- Temperature, pH and residual chlorine levels should be obtained with all water samples (immediately after the first draw). Temperatures should be obtained with first draw sample and after a three minute flush. The temperature profile for hot or cold water systems will help delineate low flow/poor flow areas.
- Aseptic technique should be used in collecting the water samples and filling vessels.
- Thiosulfate (sample bottles from certified labs) to inactivate free chlorine, should be used in all samples.

- Store samples at 4°C for transport to the lab. (Dry ice is NOT recommended. Ice or "blue" ice bricks and a cooler are preferred).
- Surface samples should be collected with sterile cotton swabs that are dipped in water from the sample site. The swab is aseptically broken off into the bottle containing sample water. Cotton swabs prepared with buffers or alginate swabs are not recommended.

Samples need to be tested within 30 hours .Coordinate with the water testing lab prior to sampling to make sure testing needs are met.

(See Attached Sheet for Water Testing Labs in North Dakota)

If HPC counts of >500 are obtained, the following steps should be taken:

1. Review of Water Management Plan
2. Review Key Environmental Risks
3. Documentation and review of corrective actions taken
4. Review of clinical surveillance
5. Review of control measurements.
6. Repeat HPC count.

If repeat HPC is still >500 collect samples for Legionella testing. The North Dakota Department of Health, Microbiology Division, is offering this testing service.

Testing Laboratories	
Astro Chem. Service, Inc. 4102 2nd Avenue West Williston, ND 58802 701-572-7355 (Bacterial and Chemical testing)	First District Health Unit 801 11th Avenue Southwest Minot, ND 58701 701-852-1376 (Bacterial testing only)
Minnesota Valley Testing Laboratories 2616 East Broadway Bismarck, ND 58502 701-258-9720 (Bacterial and Chemical testing)	Fargo Cass Public Health 401 3rd Avenue North Fargo, ND. 58102 701-241-1360 (Bacterial testing only)
Southwestern District Health Unit 227 16th St West Dickinson, ND 58601 (701-483-0171) (Bacterial testing only)	