

Bore water quality testing

Bore water should be tested and deemed safe before being used for drinking, cooking, use in swimming pools or watering edible plants such as home grown vegetables.

Bore water may contain chemical and microbiological hazards that are potentially harmful to health due to natural processes or contamination from human activity.

Private bores

Private bores should be tested for microbiological (*E. coli*) and chemical quality prior to use, particularly where the previous history of the bore is unknown. If at any stage there are changes in appearance or odour, further water quality testing is advised.

Bore water intended for human consumption (for drinking, cooking, use in swimming pools or watering edible plants) should be tested for the following parameters of concern:

- **Phase one testing:**
 - *E. coli* (as an indicator of faecal contamination)
 - Fluoride
 - Nitrate
 - Arsenic
- **Phase two testing** (to be conducted if Phase one testing results are satisfactory):
 - Volatile organic compounds (*at low detection limits*) - Only required for urban bores.
 - Metals (*antimony, barium, boron, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, sulphate, uranium*).

It is also advisable to test for total dissolved solids (salinity) if the water is intended for drinking. Based on taste, dissolved solids in drinking water should not exceed 500 mg/L (although levels up to 1000 mg/L may be tolerated by some).

Commercial or community-based bores

Drinking water is defined as a food under the *Food Act 2001* and must therefore be provided to consumers in a 'safe' manner that is unlikely to cause physical harm through consumption.

Bore water used for any commercial purpose (such as food premises) or for community-based supplies (such as hospitals, schools, caravan parks) requires routine testing to ensure that the water is suitable for drinking. Regular testing should form part of a documented risk management plan for the water supply.

As a general rule, commercial or community-based bores should be tested for microbiological quality (*E. coli*) every three months and chemical quality every two years. Testing frequency may vary depending on the community type and size served by the bore.

It is recommended that advice is sought from your local Council Environmental Health Officer or the Department of Health in determining adequate testing regimes.

If at any stage there are changes in appearance or odour, immediate water quality testing is advised. Additional testing should also be undertaken after any change to the water supply (such as the addition of a water storage tank) that may impact on water quality.

Water Quality Fact Sheet

Undertaking testing

The testing of the water samples should be done by a NATA accredited analytical laboratory. Contact details for the laboratories can be found under "Analysts" in Yellow Pages®. Advice should always be sought from the laboratory regarding the appropriate way to collect a sample.

It is advisable to purge the bore (let the water run for some time, for example, 15-20 minutes) before the sample is taken.

Interpretation of chemical results

The results of the analysis of water intended for human consumption are compared to the Australian Drinking Water Guideline values. Some chemical parameters however, may not be regulated by the Australian Drinking Water Guidelines.

Please contact Scientific Services of the Department of Health for assistance with interpretation of your test results.

Australian Drinking Water Guidelines can be accessed at www.nhmrc.gov.au/publications/synopses/eh19syn.htm

Interpretation of microbial results

***E. coli* should not be detected in a minimum 100 mL sample of drinking water.**

The detection of *E. coli* indicates that maintenance and/or treatment is inadequate and requires immediate investigation.

An alternative source of water should be used for drinking and food preparation or the bore water should be boiled prior to use.

Resources

- SA Health Drought webpage to access a range of bore water related resources: www.health.sa.gov.au/pehs/topics/drought-package.htm
- Scientific Services, SA Health (contact details below)
- For assistance in the development of a drinking water management plan, access the Community Water Planner at: www.nhmrc.gov.au/publications/synopses/eh39.htm

Contact

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