



Drinking Water Facts: Private Wells



Key Points

- Regular testing of your private well can help identify the presence of potentially harmful contaminants.
- Contamination can be from natural sources, agricultural run-off, septic tanks and plumbing materials.
- A variety of factors can make your well susceptible to contamination.
- The NJ Private Well Testing Act (PWTa) mandates private well testing on sale of property and for landlords.

Introduction

About 12% of New Jersey residents get their drinking water from private wells. While public water supplies are protected under State and Federal regulations, private well owners are responsible for monitoring the quality of their own well water and for maintaining their own wells. Drinking water can be contaminated by natural sources, like bedrock, or from man-made sources, like agricultural run-off, waste sites, disinfection chemicals, or plumbing fixtures. Regular water testing is an important step that private well owners can take to ensure that their water supply is both safe to drink and appealing to use.

Why should I test my private well?

- **To ensure your water is safe to drink.** Your water may appear fine. Regular testing can help identify the presence of contaminants in your water supply which could go unnoticed.
- **If there is known or suspected well water contamination in your area.**
- **If your well is susceptible to contamination.** See the next page for more information.
- **Unpleasant taste, smell, and appearance.** Testing will help you identify contaminants which may be affecting the quality of your drinking water and select proper treatment methods.
- **Testing is mandatory through the NJ Private Well Testing Act (PWTa).**

What types of contaminants may be in my well water?

There are many substances that can negatively affect the quality of your well water. Some are found naturally in the environment while others result from human activities. The most common types of well water contaminants in New Jersey include:

- **Infectious microorganisms**, such as bacteria, viruses, and protozoa, which are found in human and animal feces.

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- **Nitrate**, which comes from the natural breakdown of human and animal wastes, and from chemical fertilizers.
- **Lead**, which was used in the past in household plumbing and can also come from landfills, industrial facilities, and hazardous waste sites.
- Other inorganic compounds, such as **arsenic** and **mercury**, come from household septic tanks, landfills, industrial facilities, hazardous waste sites, or can occur naturally.
- **Volatile organic compounds (VOCs)**, which come from household septic tanks, gas stations, landfills, dry-cleaning facilities, industrial facilities, and hazardous waste sites
- **Radionuclides**, such as radium, uranium, and radon, which come from the decay of natural rock.

How can these contaminants affect my health?

Exposure to these contaminants may be harmful to your health.

- **Infectious microorganisms** can cause nausea, vomiting, diarrhea, and stomach cramps.
- **Nitrates** can interfere with the blood's ability to carry oxygen resulting in a type of anemia called methemoglobinemia, especially in infants.
- **Lead** can cause learning, behavioral, and developmental problems in infants and children.
- Exposure to high levels of **mercury** may result in nervous system and kidney damage. High levels of **arsenic** may increase the risk of lung, bladder, and skin cancer.
- **Volatile organic compounds (VOCs)** may affect the liver, kidney, nervous system, or heart. Exposure to some VOCs can raise the risk of developing cancer.
- **Radionuclides** such as radium increase the risk of bone and sinus cancer. Radon may increase the risk of lung cancer and uranium can effect kidney function.

What factors can make my well susceptible to contamination?

- Type, age, depth and location of your well
- Construction and maintenance of your well
- Characteristics of your local geology, ground water, recent weather, and long-term climate
- Characteristics of your household plumbing materials and well components
- Natural geological sources of groundwater contaminants
- Septic tanks and household waste disposal practices
- Local land use activities
- Known or suspected private well contamination nearby

What is the NJ Private Well Testing Act (PWTA)?

The NJ PWTA became effective in September 2002. It requires the testing of raw (untreated) water from private wells whenever a property is transferred by contract of sale. Testing is also required every five years if the property is leased. Regular well testing has the added benefit of establishing a record of your water quality over time and providing potential buyers with valuable information if you ever want to sell your home.

What types of contaminants should I test for?

The following is a list of contaminants and water quality features that are required to be tested for by the NJ PWTA:

- Total coliform bacteria
- Volatile organic compounds (VOCs)
- Nitrate
- Lead
- Arsenic¹
- Mercury²
- Gross alpha (radionuclides)³
- Iron
- Manganese
- pH

¹Only required in Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Morris, Passaic, Somerset, Sussex, Union, and Warren Counties

²Only required in Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Monmouth, Ocean, and Salem Counties

³Only required in Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Middlesex, Monmouth, Ocean, Salem, and Hunterdon Counties.

Private well owners should test their wells regularly even if not required by the NJ PWTA.

How often should I test?

You must test your well when required by the NJ PWTA. In addition, well owners are encouraged to test as follows:

Every year (at least): Total coliform bacteria, nitrates, pH, total dissolved solids

Once every 3-5 years: Lead, VOCs, manganese

At least once: Mercury, arsenic, and gross alpha

Local conditions may prompt you to test for other contaminants or to test more or less often.

What should I do if contaminants are found in my well water?

If contaminants are found, you may want to **retest** your well water to make sure that the first sample was collected and analyzed properly. If contaminants are found above federal and state public drinking water standards and action levels, you should take steps to reduce contaminant levels in your well water. You should contact your local health department for guidance.

Corrective actions should be selected based on the contaminants of concern and the source of contamination. Some actions are intended for short-term use while others are considered to be permanent solutions.

- Install a home water treatment device
- Install a new and/or deeper well
- Repair and/or maintain your septic system
- Connect to a nearby public water supply

For more information on home water treatment devices, you can contact NSF International, a non-profit organization offering information about drinking water treatment devices [Go to <http://www.nsf.org>, and select 'Certified Products & Systems'].

Where should I get my well water tested?

There are commercial testing laboratories that perform well water sampling and testing. Make sure that the lab is certified to test for the specific contaminants of concern to you and are certified for private well testing in accordance with the NJ PWTA. A list of New Jersey labs certified for well water testing can be obtained from:

<http://www.nj.gov/dep/oqa/certlabs.htm>.

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