Water Wellness in New Hampshire

Study Guide | August 2024

NEW HAMPSHIRE HOUSING

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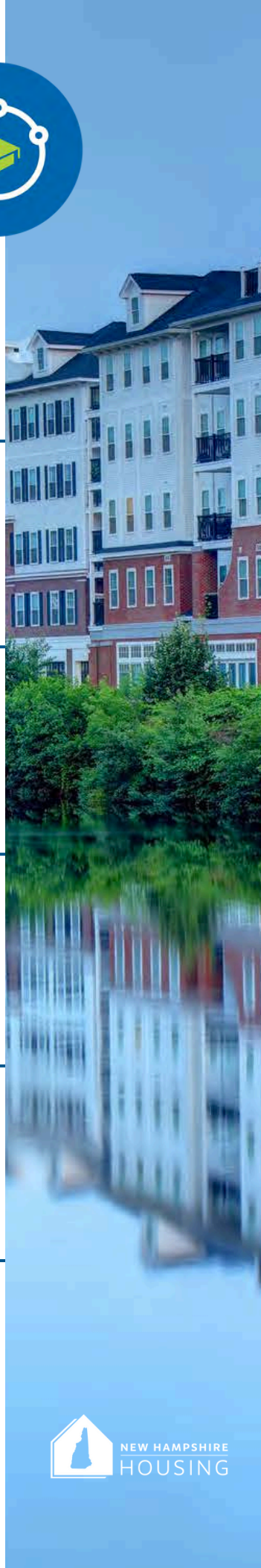


NEW HAMPSHIRE HOUSING

Water Wellness in New Hampshire - Introduction

Chapter One

Welcome to New Hampshire Housing's Water Wellness in New Hampshire course. By completing this course, you'll have a better understanding of private well ownership.

With this course, New Hampshire Housing aims to help you better understand the simple things associated with private well ownership and critical items, like how to protect yourself from common well contaminants.

It is recommended to complete this course before making an offer on a home with a private well. By doing that, you may avoid unexpected and costly surprises.

The course is broken into six modules.

This course is designed for you to learn at your own pace. You can stop and pick back up on it at any time.

New Hampshire Housing would like to thank the New Hampshire Department of Environmental Services for helping with the content for this course. Without their assistance, the information provided here wouldn't have been possible.

If you want to learn more about private well testing and well water contamination, visit the New Hampshire Department of Environmental Services at **www.des.nh.gov/water/drinking-water**.

What You'll Learn

As a homebuyer, you have the option to submit an offer that includes a requirement for a water test before closing, or you can choose to waive this requirement. It's important to note that certain types of financing, such as Rural Development and VA loans, mandate a water test.

There will be short questions throughout the course to test your understanding of the materials covered.

Additionally, to receive the certificate of completion, you will need to complete a 10-question quiz at the end of the course.

New Hampshire Housing requires water well testing for all homes financed through us with private wells. However, by completing this course, you may choose to waive this requirement with New Hampshire Housing, unless you are using Rural Development or VA financing. The intent of this course is to educate you on the potential issues and costs associated with a contaminated well.

Be aware that if you choose to waive your right to a water inspection, you will have no recourse with the seller, and will be wholly responsible for your private well.

If you choose to waive New Hampshire Housing's requirement for a water test after completing this course, New Hampshire Housing assumes no liability whatsoever for your private well. New Hampshire Housing advises all homebuyers to get a water test if purchasing a home with a private well. An informed consumer is a good consumer.

If you have any questions along the way, don't hesitate to ask your lender or real estate professional for guidance.

In this course, we will cover the following:

- Different water well types
- Understanding common water well contaminants
- Water well testing
- Water well treatments

NEW HAMPSHIRE HOUSING

About New Hampshire Housing

Before we move on, let's tell you a little bit about New Hampshire Housing.

At New Hampshire Housing, we offer affordable mortgages and various assistance programs to help make your dream home a reality. Our offerings include low down payment requirements, extra cash for down payments and closing costs, and low-cost mortgage insurance options.

We work with a network of local approved lenders to provide these opportunities to moderate-income homebuyers.

Additionally, we support free or low-cost homebuyer education options available both in-person and online, ensuring you have all the knowledge you need.

When shopping for your mortgage, remember that New Hampshire Housing's rates and programs are the same regardless of which approved New Hampshire Housing lender you work with. Find out more by visiting us at **NHHomeownership.org**.

Thanks for considering us a trusted home-buying resource. Without further ado, welcome to Water Wellness in New Hampshire.

Let's get started!

EQUAL HOUSING LENDER

What You Should Know:

Purpose of the Course
The course aims to educate participants on the complexities of private well ownership in New Hampshire, including how to protect against common contaminants.

Timing and Preparation
It is recommended to complete the course well in advance of purchasing a home with a private well to avoid unexpected and costly surprises.

Assessment and Certification
To receive a certificate of completion, participants need to pass a 10-question quiz at the end of the course, which includes short questions throughout to gauge understanding.

Acknowledgments and Resources
The course content was developed with assistance from the New Hampshire Department of Environmental Services, ensuring reliable and accurate information.

New Hampshire Housing's Homeownership Division Offers:
New Hampshire Housing offers affordable mortgages and assistance programs to facilitate home ownership, emphasizing low down payments, cash assistance, and accessible mortgage insurance options.

For more information on private well testing and water contamination, participants are directed to visit the **New Hampshire Department of Environmental Services**.

Find out more by visiting us at **NHHomeownership.org**

Different Water Well Types

Chapter Two

If a public water system services the home you are purchasing, then most of the information found here is not for you. If you have public water, all you need to know is how to pay your water bill (for the most part).

But for those of us buying homes with private wells, there are many things you will need to understand about private well ownership. Most importantly:

- Where is the well located?
- What type of well is it?
- How has it been maintained?
- Has the well been tested? When was it tested, and what were the results?
- If there is a water treatment system, why is it in place and how has it been maintained?

Homebuyer should ask the existing homeowner these questions before they sign the purchase and sales.

For example, when was the last time the well pump was replaced? You, as the homebuyer, would want to know this because, depending on the type of private well, an unexpected, costly expense could occur should the existing pump fail once you move into your new home.

Similarly, if a well-treatment system is associated with the well, why is it there? What contaminants is the system treating? When was it installed, and how is it maintained? Being aware of these concerns and asking questions before you buy is essential, as remedying private well issues can be significantly expensive.

When making an offer on a home with a private well, be sure to ask your real estate professional or the seller for a copy of the **Property Disclosure Form**.

Sellers are required to complete the **Property Disclosure Form** to the best of their knowledge.

Section 5 of the New Hampshire Association of Realtors **Property Disclosure Form** informs any buyer of the type of water system and location of that system to would-be buyers.

If you do not ask questions and plan for potential expenses, you may be placing yourself in an unwanted situation.

More than half of New Hampshire's residents get water from a public water system. About 55% of the population uses public water systems at home, while 45% get their water from a private well.

As a potential private well owner, you want to be aware of the risks that may impact your well water. Common contaminants, both natural and man-made, may impact your well water.

If you have a public water system, trained water operators must test the system regularly and remove contaminants if they are above threshold requirements.

There are no requirements for private well owners to test their water. Yet, it is still important to test and remove any contaminants if they are found. As a potential private well owner, you will be responsible for testing the water and removing any contaminants above health safety limits.

So, you, as a potential private well owner, may or may not be aware of these responsibilities and the possible health hazards associated with untreated wells and contaminants. Once you purchase the home with a private well, you are taking on the responsibility and costs associated with keeping you and your family safe.

One of the first things you want to determine as a new homeowner with a private well is where it's located and what type of well it is.

The location of the well is important because you will eventually need to service it. The location may also help you understand other potential concerns —like its location relative to the road or your septic if the home has one. Additionally, slopes or grades to a well may also be a source of contamination. So, understanding where the well is located is a great starting point for understanding other potential concerns about a private well.

Once you understand where the well is located, you then need to understand what type of well you may be purchasing.

There are a few different types of private wells in New Hampshire:

- **Dug wells**
- **Driven wells**
- **Drilled wells**
- **Artesian wells**

Understanding the type of well is an important consideration when purchasing a home, as the potential for contamination and the cost to maintain it vary.

Generally, shallow wells (dug and driven) are more prone to contamination from surface water runoff such as agriculture, septic systems, and industrial processes.

If you buy a home with a dug or driven well, you will want to do regular testing and proper maintenance to ensure water safety.

While drilled and artesian wells are less likely to be contaminated by runoff, they may still be susceptible to both natural and manmade contaminants. Generally, maintaining these deeper drilled wells may be more expensive. For example, if you need to replace the pump in an artesian well that is 300 feet deep.

Understanding the type of well you have, and its specific characteristics can help you better manage your water supply and address any potential issues proactively.

What You Should Know:

Distinction Between Public and Private Water Systems
If your home is serviced by a public water system, most of the information provided does not apply, as these systems are regularly tested and maintained to ensure water quality.

Responsibilities of Private Well Owners
If you are buying a home with a private well, you need to take responsibility for understanding and maintaining your water supply. This includes knowing the well's location, type, maintenance history, and testing results for contaminants.

Importance of Asking Questions
Before purchasing a home with a private well, ask the existing homeowner about critical aspects such as the well's maintenance history, recent testing results, and the presence and maintenance requirements of any water treatment systems.

Potential Costs and Responsibilities
Owning a home with a private well involves potential costs and responsibilities, such as maintaining the well pump and treatment systems. Being aware of these upfront can prevent unexpected expenses and ensure water safety for your family.

Understanding Well Types
There are different types of private wells in New Hampshire, each with varying risks of contamination and maintenance costs. Understanding the type of well you have will help you manage potential issues more effectively.

Health Risks and Water Quality
While New Hampshire generally has clean groundwater, certain contaminants like arsenic, iron, and manganese can affect private well water. Testing your water regularly and addressing any contamination promptly is crucial for maintaining water quality and safety. These points emphasize the importance of proactive management and understanding for private well owners to ensure safe and reliable drinking water for their households.

Types of Wells

Dug Wells:
These are shallow wells, typically 10 to 30 feet deep, excavated by hand or machine. They are often lined with stones or concrete to prevent collapse. Dug wells draw water from shallow aquifers and are usually fed by rainwater or nearby surface water. They are relatively inexpensive and easy to construct. However, due to their shallow depth, they are more susceptible to contamination from surface runoff, bacteria, and other pollutants.

Driven Wells:
These are slightly deeper than dug wells, usually 30 to 50 feet deep. They are constructed by driving a small-diameter pipe into the ground, typically in areas with sand or gravel. They also tap into shallow water tables. Driven wells are inexpensive and quick to install. Like dug wells, driven wells are vulnerable to surface contamination and less reliable during dry periods.

Drilled Wells:
The most common type of well in New Hampshire. They can range from 100 to 400 feet deep or more. Drilled wells are constructed using rotary drilling machines that penetrate deep into bedrock or other geologic formations. They access water from deep aquifers, often through fractures in the bedrock. Drilled wells provide a more consistent water supply and are less susceptible to surface contamination due to their depth. They also tend to have a longer lifespan. However, drilled wells are more expensive to construct than dug or driven wells.

Artesian Wells:
These are drilled wells where the water pressure is sufficient to naturally bring water to the surface without requiring a pump. They tap into confined aquifers where the water is under pressure. They can provide a steady flow of water without the need for mechanical pumping, reducing operational costs. Artesian wells, however, still require initial drilling and casing, which can be costly.

Test Your Knowledge!

1. **Which of the following types of wells are most susceptible from surface water contaminates? (You can choose more than one.)**
   a. **Drilled Wells**
   b. **Dug Wells**
   c. **Driven Wells**
   d. **Artesian Wells**

2. **If you purchase a home with a private well, and the pump fails within the first month of ownership, who is responsible to pay for the expense?**
   a. **The Seller**
   b. **The Lender**
   c. **The real estate agent**
   d. **You as the homeowner**

ANSWERS: Q1. b. & c. Q2. d.

Understanding Common Water Well Contaminants

Chapter Three

It is important to remember that New Hampshire has no statewide testing or treatment requirements for private wells. There is a widespread belief that well water is naturally safe and contaminant-free. This may not always be the case. It is recommended that private well owners test their well every three to five years.

As a potential buyer and future homeowner, you need to ask questions before purchasing. Once you purchase the home, you assume the risks and responsibilities associated with a private well. Ask the seller if they have done a water test and ask to see the results. If they have not done a water test, consider doing a water test before purchasing the property. Finding contaminants does not mean you shouldn't buy the property. It just means you'll want to budget for installing water treatment to remove contaminants. If the home already has treatment, find out what contaminants it removes and how to maintain the treatment system.

Renters should know that a landlord is not required to test a private well. Renters on private wells may not even know that private wells in New Hampshire are unregulated. If a test is desired, it must be negotiated before signing a lease.

As discussed, not all homes in New Hampshire have private wells. 55% of the people in our state rely on public water for their drinking water. A public water system serves water to at least 15 service connections or at least 25 people. Examples of public water systems include municipal water provided in a city or town. Public water may also be provided in housing complexes, such as condominium associations or manufactured home parks with 15 or more units.

If you are purchasing a home on a public water system, the provider is required to test the water quality annually and to notify you of any contamination.

Common Contaminants

In New Hampshire, many common contaminants, both naturally occurring and man-made, may be found in our groundwater.

They can be broken into three general categories:

Pollutants: These are generally man-made chemicals that can get into the groundwater from industrial activities or other household activities. The most common contaminants in New Hampshire are Per- and Polyfluoroalkyl Substances (PFAS) and Methyl tertiary butyl ether (MTBE). There are others, but these are the most common.

Plumbing: contaminants derived from plumbing are generally either lead or copper found within existing pipes. These contaminants are usually a concern when you have lower PH or corrosive water. The water can pull the lead or copper contaminants out of the pipes and into your drinking water, particularly when the water sits in the pipes for several hours, such as overnight or when you're at work all day.

Natural contaminates: These are natural elements in the New Hampshire soils. Granite and other types of bedrock in New Hampshire contain arsenic, radon, and uranium, which are most commonly found in the bedrock into which many of our wells are drilled.

Other naturally occurring contaminants include coliform bacteria, including E. coli. These bacteria can get into your well water from the feces of mammals, including humans, and are common in New Hampshire. Deeper bedrock-driven wells tend to be better protected from these types of bacteria.

While man-made pollutants often receive more media attention, naturally occurring contaminants can be equally dangerous and should be addressed with the same level of seriousness

Be aware that if you have a dug well and find contaminants, you may have a chronic issue. Dug wells tend to be shallow, and groundwater runoff frequently impacts water quality. If the dug well was constructed several decades ago, such as before the 1980s, it is especially prone to coliform bacteria. Your best remedy for an older dug well may be to drill a new well, which may be an unexpected cost for a new homeowner.

This is why testing and retesting every three to five years is so important once you become a private well owner. Testing is the only way to stay on top of potential contaminants that may harm you or your family.

With adequate testing, your fears and misconceptions can be relieved, as there are usually remedies available for well water contamination.

What You Should Know:

Regulation and Testing
New Hampshire does not have statewide testing or treatment requirements for private wells. There is a common misconception that well water is naturally safe, but it's recommended that **private well owners test their water every three to five years** due to potential contaminants.

Responsibilities of Homeowners
Potential homebuyers are advised to inquire about water testing results before purchasing a property with a private well. After purchase, homeowners bear the responsibility for the well's water quality and may need to budget for water treatment if contaminants are found.

Renters' Awareness
Renters should be aware that landlords are not obligated to test private well water. Negotiations for water testing should occur before signing a lease if desired.

Public Water Systems
Approximately 55% of New Hampshire residents rely on public water systems, which are subject to annual water quality testing and contamination notification requirements.

Types of Contaminants
Groundwater in New Hampshire can contain pollutants from industrial and household activities (e.g., PFAS, MTBE), plumbing-related contaminants (e.g., lead, copper), and naturally occurring substances (e.g., arsenic, radon, uranium, coliform bacteria).

Importance of Testing
Regular testing every three to five years is crucial for private well owners to monitor and manage potential contaminants. Natural and man-made contaminants pose health risks and require diligent attention.

Mitigation Strategies
Depending on the findings, mitigation strategies such as installing water treatment systems or drilling new wells may be necessary to ensure safe drinking water.

These points underscore the importance of proactive water testing and awareness of water quality issues, particularly for private well owners in New Hampshire.

Test Your Knowledge!

1. Ground water contaminates can be?

   a. Both naturally occurring and man-made
   b. Rarely found in private wells
   c. Found by tasting your drinking water
   d. Rarely found to cause harm to humans

2. How often is it recommended that a private well owner should get their water tested?

   a. Only when they purchase
   b. Well water does not need to be tested
   c. Every 3 – 5 years
   d. When you plan to sell your home

ANSWERS: Q1. a. Q2. c.

Water Well Testing

Chapter Four

The New Hampshire Department of Environmental Services recommends that private well users and people buying a home with a private well test their well water for:

- **Arsenic**
- **Bacteria (Total Coliform, E. coli)**
- **Chloride**
- **Copper**
- **Fluoride**
- **Hardness**
- **Iron**
- **Lead**
- **Manganese**
- **Nitrate/Nitrite**
- **pH**
- **Radon**
- **Sodium**
- **Uranium**

This list would be equivalent to the “standard” package plus a Radon test at the State Public Health Lab.

Radon, arsenic, and coliform bacteria are common contaminants in well water in New Hampshire.

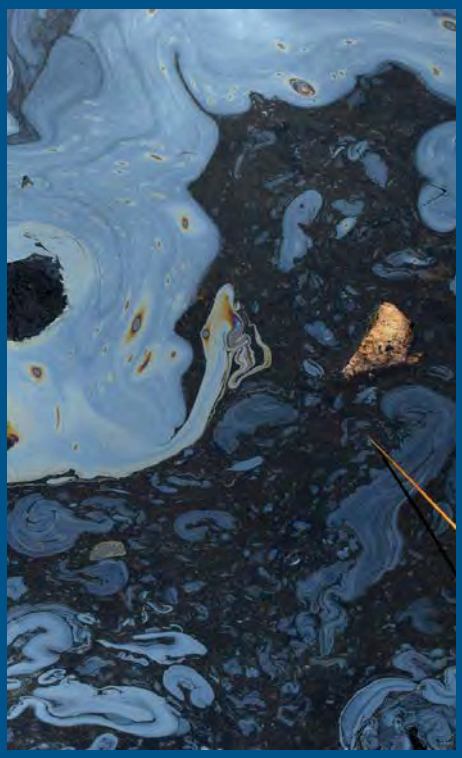
NH DES recommend testing because it is not uncommon for private wells to have harmful levels of these naturally occurring contaminants.

Man-Made Contaminants

It is important to mention the following man-made contaminants. The New Hampshire Department of Environmental Services recommends that private well owners test for them at least once, as they are common enough in New Hampshire to be of concern.

Volatile organic compounds (VOCs): These include MTBE, benzene, and industrial solvents, which occur statewide. Activities and land uses associated with a higher likelihood of VOC contamination include nearby fuel spills or leaks and businesses that use petroleum products or petroleum-based chemicals.

Per- and poly-fluoroalkyl substances (PFAS): These have been used in products used in domestic, commercial, institutional, and industrial settings and to fight certain types of fires. PFAS have affected wells throughout New Hampshire but are more frequently detected at elevated levels in southern New Hampshire. Prices for these tests may vary considerably from one lab to another.



Per- and poly-fluoroalkyl substances (PFAS)

PFAS substances are man-made chemicals commonly found in many household products. Unfortunately, PFAS are "forever chemicals" that are harmful to health. If the house you are looking at has PFAS groundwater contamination, you should research mitigation options before purchasing. Known PFAS contamination may also impact your ability to finance the home.

PFAS can have many harmful effects on human health, including:

- Reproductive effects: Decreased fertility, low birth weight, early puberty, and high blood pressure during pregnancy
- Developmental setbacks: Delays in fetuses and children, bone variations, and behavioral changes
- Immune system challenges: Reduced response to vaccines and difficulty fighting infections
- Cancer: Increased risk of kidney, prostate, or testicular cancer
- Liver problems: Higher cholesterol, elevated liver enzymes, and liver damage
- Thyroid issues: Thyroid problems and thyroid disease

The New Hampshire Department of Environmental Services recommends that a prospective homebuyer assess a residential well for PFAS if it has not been tested previously. Residential well users can obtain water sample bottles by contacting an accredited laboratory from the list provided by the New Hampshire Department of Environmental Services.

They recommend testing for additional PFAS analytes beyond the four specified in the state maximum contaminant levels (MCLs). Test for perfluorooctanoic acid, perfluorooctane sulfonic acid, perfluorohexane sulfonate, and perfluorononanoic acid to fully assess the potential for contamination impacting a water source.

If a homeowner's water contains PFAS levels above the drinking water standards, the New Hampshire Department of Environmental Services PFAS Removal Rebate Program for Private Wells may provide free testing and rebate programs to offset the capital costs of installing a PFAS treatment system.

Community resource results for private PFAS well testing can be found on the New Hampshire Department of Environmental Services PFAS Sampling Dashboard.

For more information on PFAS, visit: https://www.pfas.des.nh.gov/

Test Your Knowledge!

1. **Granite and bedrock in New Hampshire contain arsenic, uranium, and _____, which are most commonly found in the bedrock into which many of our wells are drilled.**
   - **a.** Quartz
   - **b.** Radon
   - **c.** Chlorine
   - **d.** Magnesium

2. **What is Per- and polyfluoroalkyl substances (PFAS)?**
   - **a.** A naturally occurring element found in soil.
   - **b.** A chemical that is in toothpaste that finds its way into the environment through the home's plumbing.
   - **c.** Common, man-made chemicals that are in household products.
   - **d.** Decomposed vegetation on the property which emits chemicals into the surrounding environment through root systems below the soil.

ANSWERS: Q1. b. Q2. c.

What You Should Know:

Testing Recommendations
The New Hampshire Department of Environmental Services advises private well users and homebuyers to test their well water regularly due to common contaminants, including radon, arsenic, and coliform bacteria.

Common Contaminants
Testing should include parameters such as arsenic, bacteria (Total Coliform, E. Coli), chloride, copper, fluoride, hardness, iron, lead, manganese, nitrate/nitrite, pH, radon, sodium, and uranium.

Man-made Contaminants
Volatile organic compounds (VOCs) and Per- and poly-fluoroalkyl substances (PFAS) are prevalent in New Hampshire wells, with PFAS being particularly concerning due to their persistence and health risks.

PFAS Concerns
PFAS are harmful "forever chemicals" found in many household products. Homebuyers are urged to test for PFAS before purchasing a property, as contamination can affect property value and financing options.

Testing Details and Costs
Costs for water testing vary depending on the contaminants tested, with standard tests costing between $100 to $200, and comprehensive tests including PFAS and radon potentially costing up to $300 or more.

Resources for Testing
The New Hampshire Department of Environmental Services provides a list of accredited laboratories for water testing. Homebuyers are encouraged to use qualified labs and utilize resources like the Be Well Informed tool to interpret test results.

Be Well Informed Tool
This online tool helps interpret water test results, identifies health risks from contaminants exceeding state limits, and suggests appropriate water treatment options without endorsing specific brands.

These points highlight the importance of proactive testing, awareness of contaminants, and utilizing resources to ensure safe drinking water for residents relying on private wells in New Hampshire.

Water Testing

Accredited Laboratories Providing Well Water Quality Testing Services in New Hampshire and Neighboring States[1]					
LABORATORY NAME	TELEPHONE	ADDRESS	TOWN	STATE	WEBSITE
ABSOLUTE RESOURCE ASSOCIATES, LLC	(603) 436-2001	124 HERITAGE AVENUE, UNIT 18	PORTSMOUTH	NH	WWW.ABSOLUTERESOURCEASSO
CHEMSERVE ENVIRONMENTAL	(603) 673-5440	117 ELM STREET	MILFORD	NH	WWW.CHEMSERVELAB.C
EAI ANALYTICAL LABS	(603) 357-2577	33 WHITTEMORE FARM ROAD	SWANZEY	NH	WWW.EAI-LABS.COM
EASTERN ANALYTICAL, INC	(603) 228-0525	51 ANTRIM AVENUE	CONCORD	NH	WWW.EASTERNANALYTICA
ENDYNE INC	(603) 678-4891	56 ETNA ROAD, SUITE F	LEBANON	NH	WWW.ENDYNELABS.CO
ENDYNE INC	(802) 879-4333	160 JAMES BROWN DRIVE	WILLISTON	VT	WWW.ENDYNELABS.CO
GRANITE STATE ANALYTICAL, LLC	(603) 432-3044	22 MANCHESTER ROAD	DERRY	NH	WWW.GRANITESTATEANALYTI
NELSON ANALYTICAL LAB	(603) 622-0200	490 E. INDUSTRIAL PARK DRIVE	MANCHESTER	NH	WWW.NELSONANALYTICAL
NELSON ANALYTICAL LAB	(207) 467-3478	120 YORK STREET	KENNEBUNK	ME	WWW.NELSONANALYTICAL
NEW ENGLAND RADON, LTD	(603) 893-4260	11A INDUSTRIAL WAY, UNIT 3	SALEM	NH	WWW.NEWENGLANDRADO
NHDHHS PUBLIC HEALTH LABORATORIES	(603) 271-3445	29 HAZEN DRIVE	CONCORD	NH	WWW.DHHS.NH.GOV/PROG SERVICES/ENVIRONMENTAL-HE YOU/WATER-TESTING
PACE ANALYTICAL LABORATORY	(413) 525-2332	39 SPRUCE STREET	EAST LONGMEADOW	MA	WWW.PACELABS.COM
SEACOAST ANALYTICAL SERVICES	(603) 868-1457	72 PINKHAM ROAD	LEE	NH	WWW.SEACOASTANALYTICA

Homebuyers should order a water test from a qualified lab. The New Hampshire Department of Environmental Services maintains a list of water testing labs available on its website.

Your lender or real estate agent may also have resources on available testing labs. You can also find one through a simple internet search.

The typical cost for a water test varies depending on what you have your water tested for.

For example, a standard water test for common contaminants, such as total coliform and E. coli bacteria, nitrate, iron, chloride, manganese, general water hardness, pH, and sodium, may cost between **$100 to $200 dollars**.

A comprehensive water test with additional parameters, such as fluoride, copper, and lead, may cost up to **$300 dollars**.

Testing for additional contaminants such as PFAS, radon, and uranium may increase the cost of your water test. This is why it is crucial to ask questions before you purchase your new home.

For a list of certified water testing laboratories in New Hampshire, visit: https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/labs-private-wells.pdf

Next Steps:
When you receive laboratory water test results, visit the ***New Hampshire Department of Environmental Services' Be Well Informed*** website tool.

This online tool will help you to understand the results of your test. By inputting the results into the NH DES' ***Be Well Informed*** website tool, you will learn which contaminants are above New Hampshire health limits and which are not.

It's an invaluable tool that helps you focus on high-priority items in your water test and recommends treatment options if any high-risk contaminants are found.

The ***Be Well Informed*** tool can help you:

- Understand your water test results
- Identify health risks
- Decide whether to install water treatment and which treatment to use

It is important to note that the ***Be Well Informed*** tool will provide you with treatment options but not brand names for systems. It will provide general information on the type of system recommended for any contaminants found in your water test.

To access the New Hampshire Department of Environmental Services' ***Be Well Informed*** website tool, click the following link: https://www4.des.state.nh.us/DWITool/Welcome.aspx.

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Water Well Treatments

Chapter Five

There are two main categories of water treatment options:

- **Point-of-Use (POU)** systems treat the water at a single tap. Your new home may have contaminants like arsenic, uranium, PFAS, and sodium. These contaminants only impact you when drinking and cooking water and are not a concern in showers or other non-drinking water uses. For example, they do not absorb through your skin or enter the air of the home. You could choose to remove them with a whole-house system, but a more cost-effective solution is at the point of use at the kitchen tap for arsenic, uranium, and PFAS.
- **Whole-house treatment or Point-of-Entry (POE)** systems treat all the water before it goes through the plumbing. They are typically installed close to the water intake from the well and are often found in the home's basement.

Be Well Informed recommends whole-house systems for a few common contaminants.

For example, radon requires whole-house treatment because it is released as a gas out of the water when used in your home, resulting in radon being in your home's air. Radon needs to be removed at the point of entry into the home.

Iron and manganese also generally require a whole-house treatment. While iron is not usually a health concern, iron and manganese can impact your plumbing system if found in your water. High levels of these natural contaminants can stain laundry, sinks, and tubs, so they need to be removed before they get into your home.

Corrosive or low-PH acidic water can also cause lead or copper in your pipes to leach into the water. This is another example of why a whole-house system would be recommended.

Let’s talk about pitcher filters.

Pitcher filters can be a good way to filter drinking water and are considered a Point-of-Use tool.

With pitcher filters, as with any treatment system, you want to ensure they remove the contaminants in your water. For example, many pitcher filters only remove chlorination from your water. This is helpful if you are on a public water system and do not like the taste, but for a private well owner, this may not be adequate for contaminants in your water.

Check for certifications for any pitcher filter you choose so you know it removes contaminants found in your water.

When it comes to different water treatment systems, costs can vary greatly depending on the contaminants you seek to remove, the type of well, and what is causing the contamination. To ensure you make the right choice and understand the costs involved, working with a certified water specialist is crucial. You can find qualified professionals in your area by visiting the Water Quality Association's website at **www.wqa.org**. Under 'learn about water,' you can search for a certified water specialist.

There are two main categories of water treatment options:

- The first is a Point-Of-Use (POU) treatment option.
- The second is a Point-of-Entry (POE) solution.

Water Treatment System Costs

Mitigation system costs can vary significantly depending on the specific contaminants, the complexity of the system required, and household needs. Costs for mitigation systems also vary substantially based on what you are trying to remove and whether you are installing a Point-of-Use or Whole-House System. There are many factors involved, and you will want a certified water specialist to come to your home to provide you with an accurate estimate.

Here are some rough examples of what you may expect to pay for more common solutions:

Point-of-Use treatment for arsenic in your water or a reverse osmosis system can cost between **$2,000** and **$3,000** dollars to install.

Whole-house treatment for iron and manganese can cost between **$3,000** and **$8,000** to install. Factors that impact the cost of a whole-house system include how much iron or manganese you need to treat, how many people live in the home, and how many bathrooms you may have.

Whole-house treatment for radon aeration costs could be as high as **$7,000** if you have to mitigate for radon.

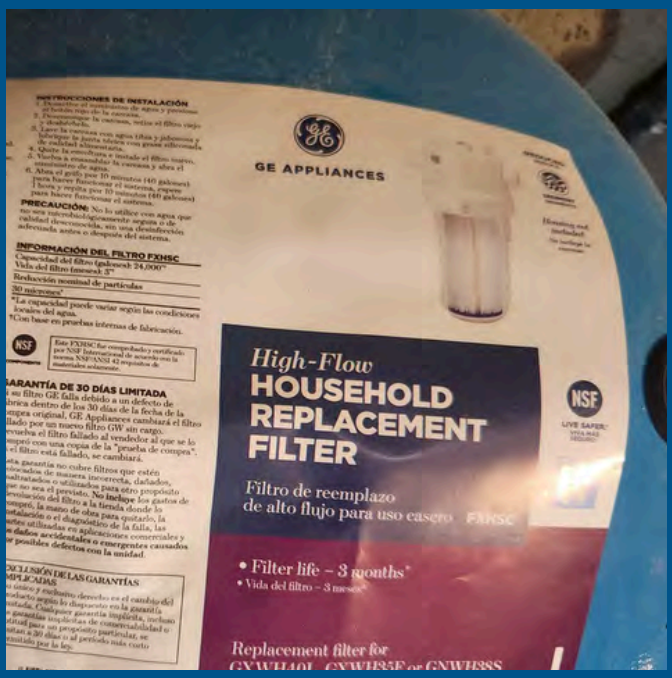
By being well-informed about a private well and the potential expenses of a water treatment system, you can make a decision that not only impacts your homeownership but also your safety. This knowledge can potentially save you significant costs in the long run, giving you a sense of control and empowerment over your expenses.

When looking for a water treatment option, look for systems certified by the **National Sanitation Foundation (NSF)**. **www.nsf.org**

This certification represents a third-party verification of the treatment option you are considering for the contaminants in your water. For example, if you want to remove arsenic from your water, look for an NSF arsenic certified treatment system.

Once you treat your water, re-test it to verify that the contaminants have been removed. Also, make sure you keep up with the required maintenance of any treatment system you install.

You should continue to retest every three to five years after installation to ensure your water quality has not changed.



To recap the recommendation for private well owners, New Hampshire Housing and the New Hampshire Department of Environmental Services recommend all private well owners take the following steps:

- **Test your well for the New Hampshire Department of Environmental Services' recommended list of contaminants.**
- **When you get your results, enter them into the Be Well Informed web tool.**
- **Your Be Well Informed report will tell you which contaminants, if any, are above health limits.**
- **If your contaminants are above the health limit, consider installing water treatment. Be Well Informed will provide treatment guidance.**
- **Contact treatment vendors. Use your Be Well Inform report to determine what type of treatment to install. Make sure to seek NSF-certified treatment options.**
- **Maintain your system and retest your water every three to five years.**

What You Should Know:

Types of Water Treatment Systems:

- **Point-of-Use (POU)**: Treats water at a single tap, such as the kitchen sink, targeting contaminants like arsenic, uranium, PFAS, and sodium specifically for drinking and cooking water.
- **Point-of-Entry (POE)**: Treats water at the point it enters the home, ensuring all water is treated before it flows through plumbing.

Suitability of POE Systems - Recommended for contaminants like radon, iron, manganese, and corrosive/low-pH water that can affect the entire plumbing system or household.

Pitcher Filters - considered POU tools for filtering drinking water, but effectiveness varies. Ensure pitcher filters are certified to remove specific contaminants present in your water.

Costs and Considerations:

- Costs for water treatment systems vary widely based on the type of contaminants, system complexity, and household needs. Examples:
- POU treatment for arsenic or reverse osmosis can cost $2,000 to $3,000.
- POE treatment for iron and manganese ranges from $3,000 to $8,000.
- Radon aeration systems could cost up to $7,000.
- Certified water specialists can provide accurate cost estimates and recommend suitable systems.

Certifications and Maintenance - Look for systems certified by the National Sanitation Foundation (NSF) to ensure effectiveness in removing specific contaminants like arsenic. Regularly retest treated water to confirm contaminant removal and maintain the treatment system as per manufacturer's recommendations.

Recommendations for Private Well Owners:

- Test well water for recommended contaminants listed by the New Hampshire Department of Environmental Services.
- Use the **Be Well Informed** web tool to interpret test results and determine if contaminants exceed health limits.
- Install water treatment systems if contaminants exceed limits, using **Be Well Informed** for guidance on treatment options.
- Maintain the treatment system and **retest water every three to five years t**o monitor water quality changes.

These points emphasize the importance of selecting and maintaining appropriate water treatment systems to ensure safe drinking water for private well owners in New Hampshire, guided by reputable certifications and ongoing testing protocols.

Helpful Resources

New Hampshire Department of Environmental Services - Well Water Quality Resources:

- **Accredited laboratory list** - *https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/labs-private-wells.pdf*
- **Water Quality Publications** - *https://www.des.nh.gov/resource-center/publications?keys=private+well&purpose=Fact+Sheets&subcategory=Drinking+Water*
- **Be Well Informed Guide** - *https://www4.des.state.nh.us/DWITool/Welcome.aspx*
- **Private Wells Resource** - *https://www.des.nh.gov/water/drinking-water/private-wells*
- **Drinking Water Resources** - *https://www.des.nh.gov/water/drinking-water*

New Hampshire Department of Environmental Service PFAS Resources:

- **PFAS Sampling Dashboard** - *https://nhdes.maps.arcgis.com/apps/dashboards/78fe1cb292af4cefbd49f281c43c658d*
- **PFAS Removal Rebate Program for Private Wells** - *https://www.pfas.des.nh.gov/funding/pfas-removal-rebate-program-private-wells*
- **PFAS and Saint-Gobain Performance Plastics** - *https://www.pfas.des.nh.gov/pfas-occurrences/saint-gobain-performance-plastics*

Other Resources:

- **National Sanitation Foundation (NSF)** - *www.nsf.org*
- **New Hampshire Housing** - *NHHomeownership.org*
- **Water Quality Association** - *www.wqa.org*

Test Your Knowledge

To receive your certificate of completion, you must successfully pass a 10-question quiz. This quiz will assess your understanding of the material covered in this course.

1. If your well tests positive for Radon or another volatile compound, it is recommended that you install this type of water treatment system.

    a. Whole House System
    b. Point of Use
    c. Certified filter on your drinking water tap
    d. None

2. Why is it important to treat corrosive water or water with a lower PH (Acidic)?

    a. Lower PH water can leach contaminants out of existing copper and lead pipes
    b. found in your home.
    c. Because it tastes bad
    d. It's bad for watering your garden
    You do not need to treat it

3. When considering purchasing a home with a private well and after reviewing the Property Disclosure Form, which of the following questions should you ask the seller before you sign a purchase and sales agreement?

    a. Where is the well located?
    b. What type of well is it?
    c. Has the well been tested? When, and what were the results?
    d. Is there a water treatment system, why, and how has it been maintained?
    e. All of the above

4. In NH there is no requirement for private well water testing.

    a. True
    b. False

5. Why is it important to ask questions to the seller about their private well before you sign a purchase and sales agreement?

    a. Once you purchase the home, you own the risks and responsibilities associated with the private well
    b. Private well ownership may come with unexpected costs, and you need to be prepared
    c. Understanding contamination concerns and treatment upfront can help you be a successful homeowner
    d. All of the above

6. Which of the following is not a type of water treatment?

    a. Whole House System
    b. Point of Use System
    c. Certified filter on your drinking water tap
    d. Artesian well

7. Naturally occurring contaminates are just as serious as man-made contaminates (pollutants) for private well owners?

    a. True
    b. False

8. Which types of wells are most vulnerable to contamination? (You can choose more than one)

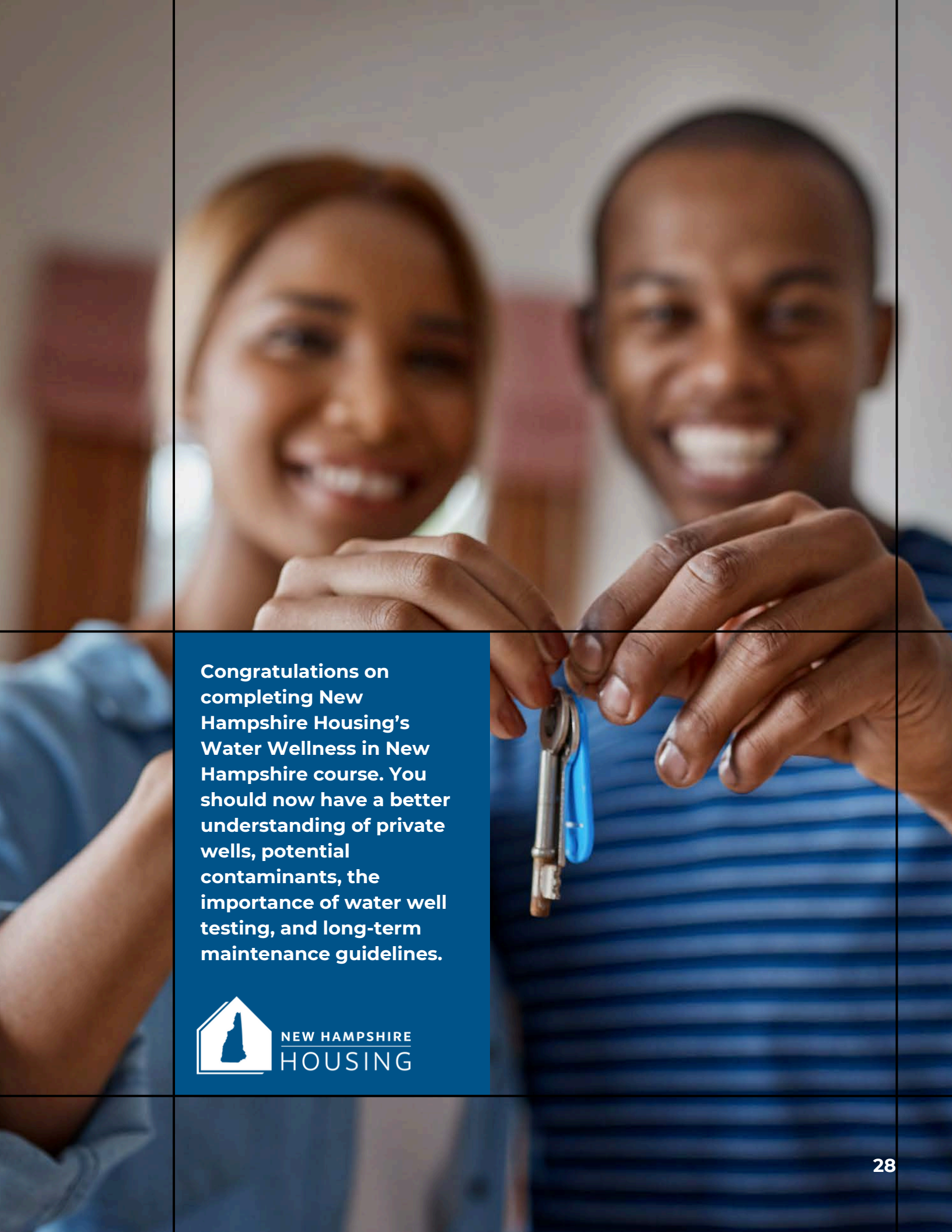
    a. Dug Wells
    b. Driven Wells
    c. Drilled Wells
    d. Artesian Wells

9. Which of the following describes potential groundwater contaminants in New Hampshire?

    a. Both naturally occurring and man-made
    b. Rarely found in private wells
    c. Found by tasting your drinking water
    d. Rarely found to cause harm to humans

10. Private Well users should test for contaminates every _____ years.

    a. 1-4 Years
    b. 4-5 Years
    c. 3-5 Years



Congratulations on completing New Hampshire Housing's Water Wellness in New Hampshire course. You should now have a better understanding of private wells, potential contaminants, the importance of water well testing, and long-term maintenance guidelines.

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New Hampshire Housing promotes, finances, and supports housing solutions for the people of New Hampshire.