

Brownfields Newsletter

KNIK TRIBE

September 2026



Your Water, Your Well

In this newsletter:

For many Mat-Su Valley residents, the water coming from the kitchen faucet starts in a private well. Outside the areas served by water utilities in Palmer, Wasilla, and Talkeetna, most of the Borough does not have municipal water service.

Private wells can provide excellent drinking water, but they come with important responsibilities. The well owner is responsible for making sure the water is safe to drink.

Public water systems, like those managed by the cities of Palmer, Wasilla, and Talkeetna, are subject to regular testing and monitoring, regulated by the Alaska Department of Environmental Conservation (ADEC). However, private wells are generally not subject to this regular monitoring. ADEC does not routinely sample or test private wells, meaning that contamination could be present without the homeowner knowing unless the water is tested. This is especially important in the Mat-Su, where many homes have a private well and an onsite septic system, and where groundwater can also be affected by naturally occurring minerals, fuel releases, contaminated properties, and other activities.

Fortunately, protecting your well does not have to be complicated. Regular testing, well maintenance, and an awareness of what is happening around your property can greatly reduce your risk.

Where Does
Your Well
Water Come
From?

Know Your Well

Annual Well
Checkups

When
Conditions
Change

Protecting Your
Well

Where Can I
Have My Water
Tested?

Well Owner's
Checklist

Where Does Your Well Water Come From?

When you turn on your faucet, your well pump draws groundwater from beneath your property. This groundwater occupies spaces within soil, sand, gravel, fractured rock, and other underground materials, forming an aquifer.

Groundwater begins largely as precipitation or snow melt, which percolates into the ground. Soil and sediment provide some natural filtration as water moves downward, but groundwater is not automatically free of contaminants.

Water can naturally pick up minerals from the materials it travels through. Additionally, contamination from the ground surface, like from fuel spills, can migrate downward and eventually reach the groundwater table.

Potential sources of groundwater contamination around Mat-Su homes include:

- Septic systems and drain fields
- Leaking home heating-oil tanks and fuel lines
- Fuel or chemical spills
- Old dumps and buried waste
- Former gas stations and commercial properties
- Fertilizers and animal waste
- Naturally occurring substances such as arsenic

Groundwater also travels and flows underground, so a contamination source does not necessarily need to be located directly above or beside a well to eventually affect it.



Know Your Well

One of the most useful documents a well owner can have is the well log prepared when the well was drilled. A well log may contain:

- Well depth
- Depth to groundwater
- Well casing depth and diameter
- Soil and rock layers encountered during drilling
- Depths of water-producing zones
- Flow information
- Other well construction details

Alaska's Department of Natural Resources maintains the Well Log Tracking System (WELTS), the State repository for water-well logs. State law requires water-well contractors to submit water and aquifer information after completing a well.

Older wells may have incomplete records, and DNR cautions that database locations and records should be verified. But WELTS is a good place to start if you do not have your original well paperwork.

It is a good idea to keep your well log, water testing results, maintenance records, and any pump repair records together, in case these are ever needed.



Alaska Department of Natural Resources
MINING, LAND & WATER

FORMS ▼ADDITIONAL HELPFUL INFORMATION ▼

[Natural Resources / MLW / WELTS](#)[Register](#)[Login](#)

WELL LOG TRACKING SYSTEM (WELTS)

Welcome to the Alaska Well Log Tracking System (WELTS)! Alaska Statute 41.08.020(b)(4) and Alaska Administrative Code 11 AAC 93.140(a) requires water well contractors to file water and aquifer data obtained, including but not limited to, well location, well driller's logs, pumping tests and flow measurements, estimated elevation, and water quality determinations **within 45 days of well completion**.

[WELTS User Guide](#)

Search By

Owner Name ▼

Last name, First name

Disclaimer: This page is provided as a public service by the Alaska Division of Mining, Land and Water. The Division makes NO representation regarding well location, completeness or accuracy of the data in the database or data extraction procedures provided. Data are provisional. The user assumes total responsibility for verification.

[Privacy](#) [Copyright](#) [System Status](#) [Accessibility](#)



State of Alaska Department of Natural Resources
550 W. 7th Ave, Suite 1380
Anchorage, AK 99501-3557
Phone: (907) 269-8400
Fax: (907) 269-8901

[State of Alaska](#) [myAlaska](#) [Departments](#) [State Employees](#)

Annual Well Checkups

You do not need to test your well for every possible chemical every year. The better approach is to perform routine basic testing and add additional analyses when your location, previous testing results, or activities around your property suggest they are needed.

ADEC recommends, at a minimum, annual nitrate and coliform bacteria testing for private wells. ADEC also recommends considering arsenic testing, particularly in areas where arsenic is a concern.

1. TOTAL COLIFORM & E. COLI

Coliform bacteria are common in the environment. Their presence in well water can indicate that surface water or another contamination pathway is entering your well.

Possible causes include:

- Damaged or poorly sealed well caps
- Cracked well casings
- Surface water entering around the casing
- Flooding
- Septic system problems



E. coli is especially important, because its presence may indicate contamination by human or animal waste. You cannot determine whether bacteria are present by looking at the water.

2. NITRATE

Nitrate can occur naturally, but elevated concentrations can also be associated with:

- Septic systems
- Fertilizers
- Animal wastes

Exposure to high nitrate levels can negatively affect the ability of red blood cells to transport oxygen within the body. Exposure is particularly dangerous for infants, as it can cause “blue baby syndrome”, a rare but sometimes fatal illness. If your household uses well water to prepare infant formula, knowing the nitrate concentration in your water is especially important.

3. ARSENIC

Unlike a leaking fuel tank or failing septic system, arsenic contamination does not necessarily mean anyone polluted the groundwater. Arsenic occurs naturally in Alaska groundwater. It can dissolve into groundwater from naturally occurring minerals underground. It has no reliable taste, smell, or appearance that would warn you of its presence.

Arsenic is locally relevant. For example, the Borough's Talkeetna water system uses groundwater wells and specifically treats the water to remove arsenic, manganese, and iron before distributing it to customers.

If you have never tested your private well for arsenic, consider including it in your next round of testing. If arsenic has previously been detected at an elevated concentration or elevated arsenic occurs in nearby wells, ADEC's private water system guidance recommends annual arsenic testing.

When Conditions Change

In the event of extreme conditions or events, it may be best to not wait until your annual test. Annual testing establishes a useful baseline, but certain events should trigger additional testing, to ensure you and your family's safety.

Test your well after:

FLOODING

If floodwater reaches or surrounds the wellhead, assume that contamination may have entered the well until the situation has been evaluated. Floodwaters can overrun sewage and stormwater systems, resulting in a significant risk of contamination.

SEPTIC FAILURE

Surfacing wastewater, sewage odors, unusually wet areas around a drain field, or other signs of septic failure should be taken very seriously, especially if a private well is nearby. Consider bacteria and nitrate testing.

DAMAGE TO THE WELL

A broken cap, cracked casing, vehicle strike, or other physical damage can create a direct pathway for contaminants.

MAJOR WELL OR PLUMBING WORK

Work on the system can introduce bacteria. Testing after repairs can verify that the water is safe.



A FUEL OR CHEMICAL SPILL

Do not assume that a spill cannot affect your well simply because the spill occurred some distance away. Contamination can migrate underground, sometimes affecting groundwater well away from the initial release.

Contact ADEC and a qualified laboratory to determine what should be analyzed. Petroleum investigations may require analyses such as BTEX, VOCs, or other petroleum-related contaminants depending upon the release.

A CHANGE IN YOUR WATER

Changes in:

- Taste
- Odor
- Color
- Cloudiness
- Sediment

should be investigated.



Protecting Your Well

Keep Your Well “High and Dry”

ADEC uses a useful phrase for private-well protection: High and Dry.

The top of the well casing should generally be at least 12 inches above the surrounding ground surface or well-house floor, or higher in locations where flooding is common. Water should drain away from the well rather than collecting around it.

Take 5 Minutes and Inspect Your Well

Go outside and look for:

- ☐ Secure sanitary well cap
- ☐ No cracks or corrosion in exposed casing
- ☐ Electrical conduit is sealed
- ☐ At least 12 inches of casing above ground
- ☐ Ground slopes away from the well
- ☐ No standing water around the casing
- ☐ No fuel, chemicals, fertilizer, manure, or waste stored nearby
- ☐ No snow, leaves, soil, or debris piled against the well
- ☐ No obvious vehicle or equipment damage



ADEC also recommends placing bollards or concrete posts where vehicles or equipment could strike the wellhead. This could be especially useful in locations where wells may be located near driveways, snow-storage areas, shops, equipment yards, or areas traveled by ATVs and other equipment, making the wellhead especially vulnerable to accidental damage.

Don't Forget About Your Septic System

Many Mat-Su properties have both a private well and an onsite septic system. Your well removes water from the ground, while your septic system returns treated wastewater to the ground. Proper construction, maintenance, and separation between the two systems are critical.

ADEC notes that minimum separation requirements apply to private water systems and warns that wells can be at risk where those distances are not maintained.

Know where your well, septic tank, and drain field are located, and keep an eye out for:

- Sewage odors
- Surfacing wastewater
- Persistently wet ground over the drain field
- Slow household drains
- Septic backups



If you suspect a septic failure near your well, don't wait for your water to taste or smell different before testing it.

Where Can I have My Water Tested?

ADEC recommends sending private-well samples to a State of Alaska-certified laboratory. Be sure to call the lab before collecting any samples. Different analyses may require specific bottles, certain preservatives, specific collection methods, refrigeration or other specific handling, or may have maximum holding times that must be adhered to. Do not collect your sample in a Mason jar, water bottle, or other household container unless the laboratory specifically tells you to.

Tell the laboratory that you have a private well and would like to get your water tested. At a minimum, discuss total coliform/e. coli and nitrate testing, and ask them if arsenic may be appropriate to test for based on your location and the results of previous tests.

One local option is the **Mat-Su Test Lab** located in Palmer. They offer a suite of tests for household water systems and have current prices listed on their website (matsutestlab.com) for coliform bacteria, nitrates, arsenic, and many other tests/packages.



My Test Found Something ... Now What?

A laboratory result does not automatically mean that your well needs to be abandoned or that you need an expensive whole-house treatment system.

Start by asking:

1. What was detected?
2. At what concentration?
3. Is that concentration above a drinking-water standard or health guideline?
4. Should the result be confirmed with another sample?
5. Could the well itself be allowing contamination to enter?
6. What treatment technology actually removes this contaminant?

If coliform bacteria are detected, ADEC advises that the well should not be used for potable purposes until it has been adequately disinfected and retested to verify that the contamination is gone.

For chemical contaminants, determine the contaminant and concentration before buying treatment equipment. ADEC and EPA can provide useful information on types of filters that are available and effective for the different water quality concerns.

Well Owner's Checklist

EVERY YEAR

- ☐ Test for total coliform/E. coli
- ☐ Test for nitrate
- ☐ Inspect well cap and casing
- ☐ Make sure water drains away from the well
- ☐ Look for new contamination sources around your property
- ☐ Save your laboratory results

IF YOU HAVEN'T ALREADY

- ☐ Find your well log
- ☐ Establish an arsenic baseline
- ☐ Locate your septic tank and drain field
- ☐ Locate your heating-oil tank and fuel lines
- ☐ Know which laboratory you will call

Additional Information

Local:

- City of Palmer- palmerak.org/public-works
- City of Wasilla- cityofwasilla.gov/302/Drinking-Water
- Mat-Su Borough- matsu.gov/services/tsw

State:

- ADEC Drinking Water- dec.alaska.gov/eh/dw/
- ADEC Private Wells Guidance- dec.alaska.gov/eh/dw/dwp/private-wells/

Federal:

- EPA Private Wells Guidance- epa.gov/privatewells

Water Testing:

- Mat-Su Test Lab: matsutestlab.com
- Alaska Water Laboratories: akwaterlabs.com

Knik Tribe Brownfields Program	KROBILLARD@KNIKTRIBE.ORG
WWW.KNIKTRIBE.ORG/ALASKA-KNIK-TRIBE-BROWNFIELDS-PROGRAM	1800 LAUREL DRIVE PALMER, AK 99645
