Drinking Water Report

2021

Apple Valley

Where does Apple Valley water come from?

How is Apple Valley water treated?

What is in Apple Valley's water?

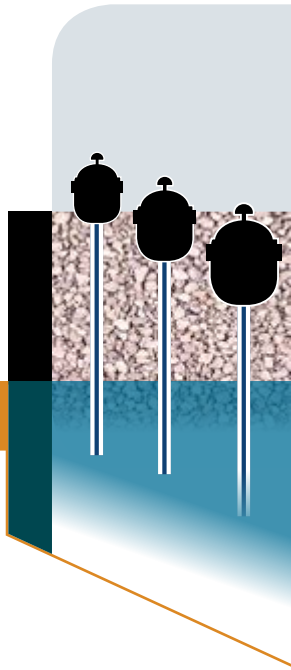
Does someone test our water to make sure it is safe?

How can I help protect our drinking water?

Water is essential to life. It makes sense to ask questions about the water we use. This report aims to share information to help you understand Apple Valley's water supply from source to tap so you can make well-informed decisions for your household.

Apple Valley works hard to provide you with safe and reliable drinking water that meets federal and state water quality requirements. The purpose of this report is to provide you with information on your drinking water and how to protect our precious water resources. This report contains the results of all monitoring performed from January 1 to December 31, 2020.

We invite you to read this report and frequently visit **ci.apple-valley.mn.us** for news and updates. After reading the report, you may contact Brian Skok, Utilities Superintendent, if you have questions about Apple Valley's drinking water. You can also ask for information about how you can take part in decisions that may affect water quality.



(952) 953-2400 or Brian.Skok@applevalleymn.gov

Where does Apple Valley water come from?

Here in Apple Valley, we are geographically blessed with direct access to high quality aquifers which are continuously recharged with water that is filtered by the earth. While it is not an unlimited resource, it is a generous resource that provided us **1.9 billion gallons of water** in 2020. We prioritize the use wells that produce the finest quality water, and put additional wells online during our peak periods.

From the MDH...

Minnesota's primary drinking water sources are groundwater and surface water. Groundwater is the water found in aquifers beneath the surface of the land. Groundwater supplies 75 percent of Minnesota's drinking water. Surface water is the water in lakes, rivers, and streams above the surface of the land. Surface water supplies 25 percent of Minnesota's drinking water.

The drinking water in Apple Valley comes from a groundwater source. Apple Valley operates 12 wells which range from 487 to 516 feet deep to draw water from the Prairie Du Chien-Jordan and Jordan aquifers. Apple Valley has 5 additional wells that serve as an emergency backup supply, and 2 more as standby.

The Minnesota Department of Health (MDH) provides information about your drinking water source in a source water assessment, including:

- How Apple Valley is protecting your drinking water source
- Nearby threats to your drinking water
- How easily water and pollution can move from the surface of the land into drinking water sources, based on natural geology and the way wells are constructed.

Find your Source Water Assessment here:
www.health.state.mn.us/communities/environment/water/swp/swa
or call 651-201-4700 or 1-800-818-9318 Monday-Friday, between 8:00 a.m. and 4:30 p.m.

Apple Valley Wells

- 12 Regular-use
- 5 Emergency
- 2 Standby

How is Apple Valley water treated?

After water is drawn from the aquifer, it passes through 4 stages of treatment. oxidation, filtration, disinfection, and finally fluoridation.

These treatment techniques improve the taste of our water, protect your plumbing, contribute to dental health, and most importantly-protect the water against bacteria as it travels to your tap.

Oxidize

Water is treated with chlorine and permanganate to bring the minerals, iron and manganese, out of suspension.

Filter

Water passes through filter cells containing sand media to remove the iron and manganese. Reducing the concentration of iron and manganese protects your plumbing from unwanted build up and improves taste.

Disinfect

Water is treated with chlorine to disinfect and kill bacteria and other microbes that can cause illness. Water leaves the treatment plant with the right concentration of residual disinfectant to keep it free of bacteria and microbes while it flows through the distribution system.

Fluoridate

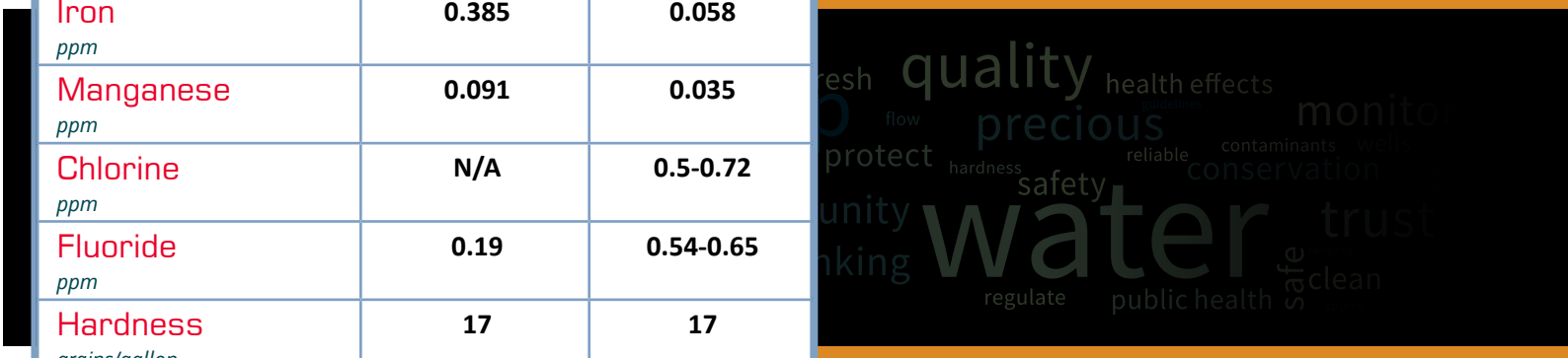
Fluoride is added to improve dental health, per Minnesota State Statute 144.145

If your drinking water fluoride levels are below the optimal concentration range of 0.5 to 0.9 ppm, please talk with your dentist about how you can protect your teeth and your family's teeth from tooth decay and cavities. For more information, visit: MDH Drinking Water Fluoridation

www.health.state.mn.us/communities/environment/water/com/fluoride.html

Before and After Treatment

Component *unit*	Before Treatment	After Treatment
Iron *ppm*	**0.385**	**0.058**
Manganese *ppm*	**0.091**	**0.035**
Chlorine *ppm*	**N/A**	**0.5-0.72**
Fluoride *ppm*	**0.19**	**0.54-0.65**
Hardness *grains/gallon*	**17**	**17**



Does someone test our water to make sure it is safe?

Yes. Diligently. Continuously.

We work with the MDH to test drinking water for more than 100 contaminants. Testing is performed every year, throughout the year. We sample for some contaminants multiple times throughout the year. Others are sampled once a year or once every few years. Our testing schedules and methods carefully follow federal regulation to protect public health.

From the MDH...

It is expected that contaminants will be detected in small amounts. No water supply is ever completely free of contaminants. Drinking water standards protect Minnesotans from substances that may be harmful to their health.

To learn more about water quality testing, please visit the MDH webpage "Basics of Monitoring and Testing of Drinking Water in Minnesota."

www.health.state.mn.us/communities/environment/water/factsheet/sampling.html

The U.S. Environmental Protection Agency (EPA) sets safe drinking water standards. These standards limit the amounts of specific contaminants allowed in drinking water. This ensures that tap water is safe to drink for most people. The U.S. Food and Drug Administration regulates the amount of certain contaminants in bottled water. Bottled water must provide the same public health protection as public tap water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1.800.426.4791.

The table in this report shows the contaminants we found last year or the most recent time we sampled for that contaminant. It also shows the levels of those contaminants and the EPA's limits. Substances that we tested for but did not find are not included in the table.

No contaminants were detected at levels that violated federal drinking water standards. We sample for some contaminants less than once a year because their levels in water are not expected to change from year to year. If we found any of these contaminants the last time we sampled for them, we included them in the table with the detection date.

We may have done additional monitoring for contaminants that are not included in the Safe Drinking Water Act. To request a copy of these results, call the MDH at 651-201-4700 or 1-800-818-9318 between 8:00 a.m. and 4:30 p.m., Monday through Friday.

Some contaminants are monitored regularly throughout the year, and rolling (or moving) annual averages are used to manage compliance. Because of this averaging, there are times where the Range of Detected Test Results for the calendar year is lower than the Highest Average or Highest Single Test Result, because it occurred in the previous calendar year.

In addition to testing drinking water for contaminants regulated under the Safe Drinking Water Act, we sometimes also monitor for contaminants that are not regulated. Unregulated contaminants do not have legal limits for drinking water.

Detection alone of a regulated or unregulated contaminant should not cause concern. The meaning of a detection should be determined considering current health effects information. We are often still learning about the health effects, so this information can change over time.

The following table shows the unregulated contaminants we detected last year, as well as human-health based guidance values for comparison, where available. The comparison values are based only on potential health impacts and do not consider our ability to measure contaminants at very low concentrations or the cost and technology of prevention and/or treatment. They may be set at levels that are costly, challenging, or impossible for water systems to meet (for example, large-scale treatment technology may not exist for a given contaminant).

A person drinking water with a contaminant at or below the comparison value would be at little or no risk for harmful health effects. If the level of a contaminant is above the comparison value, people of a certain age or with special health conditions - like a fetus, infants, children, elderly, and people with impaired immunity – may need to take extra precautions. Because these contaminants are unregulated, EPA and MDH require no particular action based on detection of an unregulated contaminant. We are notifying you of the unregulated contaminants we have detected as a public education opportunity.

For more information, visit:

MDH's A-Z List of Contaminants in Water
https://www.health.state.mn.us/communities/environment/water/contaminants/index.html

Fourth Unregulated Contaminant Monitoring Rule (UCMR 4)
https://www.health.state.mn.us/communities/environment/water/com/ucmr4.html

Main types of contaminants in drinking water sources:

Microbial contaminants, such as viruses, bacteria, and parasites. Sources include sewage treatment plants, septic systems, agricultural livestock operations, pets, and wildlife.

Inorganic contaminants, include salts and metals from natural sources (e.g. rock and soil), oil and gas production, mining and farming operations, urban stormwater runoff, and wastewater discharges.

Pesticides and herbicides are chemicals used to reduce or kill unwanted plants and pests. Sources include agriculture, urban stormwater runoff, and commercial and residential properties.

Organic chemical contaminants include synthetic and volatile organic compounds. Sources include industrial processes and petroleum production, gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants, such as radium, thorium, and uranium isotopes come from natural sources (e.g. radon gas from soils and rock), mining operations, and oil and gas production.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. The developing fetus and therefore pregnant women may also be more vulnerable to contaminants in drinking water. These people or their caregivers should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1.800.426.4791

What is in Apple Valley's water?

The table below itemizes all the substances detected in Apple Valley water. **None were detected at levels that violated safe drinking water standards.**

Some (such as Barium, Nitrate, Sulfate, etc) are naturally present in groundwater.

Some (such as Fluoride and Chlorine) are introduced during treatment.

Metals (Copper and Lead) are not present in Apple Valley water when it leaves the treatment plant. However, as the water passes through plumbing on its way to your tap, these metals can leach into the water. The testing for Copper and Lead is performed at customers' taps.

Regulated Substance *(units)*	MCLG	MCL	Level Detected	Range	Major Source of Contaminant	Meets Standards
Barium *(ppm)*	2	2	0.17	N/A	Discharge of drilling wastes; Discharge from metal refineries, Erosion of natural deposits.	✓
Combined Radium *(pCi/l)*	0	5.4	3.9	N/A	Erosion of natural deposits.	✓
Fluoride *(ppm)*	4	4	0.61	0.54-0.65	Erosion of natural deposits; Water additive to promote strong teeth.	✓
Gross Alpha *(pCi/l)*	0	15.4	7.3	N/A	Erosion of natural deposits.	✓
Nitrate *(ppm)*	10	10.4	0.29	0-0.29	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	✓
Total Chlorine *(ppm)*	4 (MRDLG)	4 (MRDL)	0.64	0.50-0.72	Water additive used to control microbes.	✓
Total Haloacetic Acids *(ppb)*	N/A	60 (MRDL)	11.8	4.2-11.8	By-product of drinking water disinfection.	✓
Total Trihalomethanes *(ppb)*	N/A	80 (MRDL)	35	18.5-35	By-product of drinking water disinfection.	✓

Regulated Substance *(units) test date*	MCLG	AL	90% Level	Sites Over AL	Major Source of Contaminant	Meets Standards
Copper *(ppm)* ***8/23/2019***	0	1.3	0.18	0 of 30 sites	Corrosion of household plumbing systems.	✓
Lead *(ppb)* ***8/23/2019***	0	15	2.8	0 of 30 sites	Corrosion of household plumbing systems.	✓

Unregulated Substance *(units)*	Comparison Value	Highest Avg or Single Test Result	Range
HAA6br *(ppb)*	N/A	6.05	4.49-8.16
HAA9 *(ppb)*	N/A	9.27	6.5-11.58
Manganese *(ppp)*	100	0.37	0-0.74
Sodium* *(ppm)*	20	24*	N/A
Sulfate *(ppm)*	500	37.5	N/A

*Note that home water softening can increase the level of sodium in your water.

Key Terms Used in the Table

- **Level Detected** - This is the value used to determine compliance with federal standards. It sometimes is the highest value detected and sometimes is an average of all the detected values. If it is an average, it may contain sampling results from the previous year.
- **MCL** - Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **MCLG** - Maximum Contaminant Level Goal. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **MRDL** - Maximum Residual Disinfectant Level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **MRDLG** - Maximum Residual Disinfectant Level Goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **90% Level** - 90th Percentile Level. This is the value obtained after disregarding 10 percent of the samples taken that had the highest levels. For example, in a situation in which 10 samples were taken, the 90th percentile level is determined by disregarding the highest result, which represents 10 percent of the samples.
- **AL** - Action Level. The concentration of a contaminant which, if exceeded, triggers treatment or other requirement which a water system must follow.
- **Comparison Value** - a guidance value, based on potential health impact for comparison on unregulated substances.
- **N/A** - Not Applicable (does not apply).
- **pCi/L** - picocuries per liter (a measure of radioactivity).
- **ppm** - Parts per million or milligrams per liter. One ppm is like one drop in one million drops of water, or about one cup in a swimming pool.
- **ppb** - Parts per billion or micrograms per liter. One ppb is like one drop in one billion drops of water, or about one drop in a swimming pool.
- **HAA6Br** - A group of 6 Haloacetic Acids.
- **HAA9** - A group of 9 Haloacetic Acids.

Lead information from the MDH...

You may be in contact with lead through paint, water, dust, soil, food, hobbies, or your job. Coming in contact with lead can cause serious health problems for everyone. There is no safe level of lead. Babies, children under six years, and pregnant women are at the highest risk.

Lead is rarely present in a drinking water source and monitoring consistently finds that lead is not a problem in Apple Valley source water. However, it can get in your drinking water as it passes through lead service lines and your household plumbing system. Apple Valley is responsible for providing high quality drinking water, but it cannot control the plumbing materials used in private buildings. There are no lead service lines in the Apple Valley water system.

RESOURCES TO HELP YOU LEARN MORE

MDH webpage- Lead in Drinking Water
https://www.health.state.mn.us/communities/environment/water/contaminants/lead.html

EPA webpage- Basic Information about Lead in Drinking Water
http://www.epa.gov/safewater/lead

The EPA Safe Drinking Water Hotline
1-800-426-4791

MDH webpage- Lead Poisoning Prevention: Common Sources
www.health.state.mn.us/communities/environment/lead/sources.html

Read below to learn how you can protect yourself from lead in drinking water.

1. **Let the water run for 30-60 seconds** before using it for drinking or cooking if the water has not been turned on in over six hours. The only way to know if lead has been reduced by letting it run is to check with a test. If letting the water run does not reduce lead, consider other options to reduce your exposure.
2. **Use cold water** for drinking, making food, and making baby formula. Hot water releases more lead from pipes than cold water.
3. **Test your water.** In most cases, letting the water run and using cold water for drinking and cooking should keep lead levels low in your drinking water. If you are still concerned about lead, arrange with a laboratory to test your tap water. Testing your water is important if young children or pregnant women drink your tap water.

   Contact an MDH accredited laboratory to get a sample container and instructions on how to submit a sample:

   https://eldo.web.health.state.mn.us/public/accreditedlabs/labsearch.seam

   MDH can help you understand your test results

4. **Treat your water.** If a test shows your water has high levels of lead after you let the water run.

   Read about water treatment units:

   https://www.health.state.mn.us/communities/environment/water/factsheet/hometreatment.html

How can I help protect our drinking water?

Our personal habits impact the safety and quality of our water.

- When we practice conservation, we limit our dependence on wells which allows our aquifers to recharge.
- When we properly dispose of hazardous wastes and medications, we protect both surface waterbodies and aquifers from pollution.
- Other helpful tips to protect our water can be learned by watching this video.

Environmental Initiative
Source Water Protection Collaborative
https://environmental-initiative.org/work/source-water-protection-collaborative/

In the land of 10,000 lakes, it is easy to feel like water is an inexhaustible resource. It is not.

In parts of the Twin Cities metro, groundwater is often removed from aquifers faster than it can be replaced. This year's early summer drought has been a strong reminder that water is limited and precious.

Conservation is a necessity for us all to have enough water.

Here are some tips to help you and your family conserve – and save money in the process.

- Apple Valley's Watersmart program helps you manage your water usage. Learn more **here**
- Observe Apple Valley's lawn-watering restrictions.
- When you do water your yard, water slowly, deeply, and less frequently. Water early in the morning and close to the ground.
- Use water-friendly landscaping, such as native plants.
- Fix running toilets. They can waste hundreds of gallons of water.
- Turn off the tap while shaving or brushing your teeth.
- Shower instead of bathe. Bathing uses more water than showering, on average.
- Only run full loads of laundry, and set the washing machine to the correct water level.
- Only run the dishwasher when it's full.

https://www.pca.state.mn.us/conserving-water
www.epa.gov/watersense

Lawn Watering Restrictions

Lawn watering is permitted only before 11 a.m. and after 6 p.m. each day between May 1 and September 30.

Lawn watering refers to in-ground irrigation systems, mechanical sprinklers, and unattended hoses. Residents using alternate sources for irrigation such as private wells or water from lakes and ponds are subject to the same lawn watering restrictions as users of the municipal water supply.

New sod laid and trees planted in the calendar year are exempt. Additional water restrictions may be implemented if necessary to maintain normal domestic and fire flow requirements.

The water use restrictions do not apply to hand watering (hose must be attended) of plants, and children's water toys when in use by children; in addition to non-irrigation water use (such as vehicle washing).

Water use restrictions were implemented to enhance water conservation, environmental stewardship, and comply with State regulations.

Visit our New WaterSmart Portal

- Monitor your daily and hourly water use

- Sign up for water use notifications

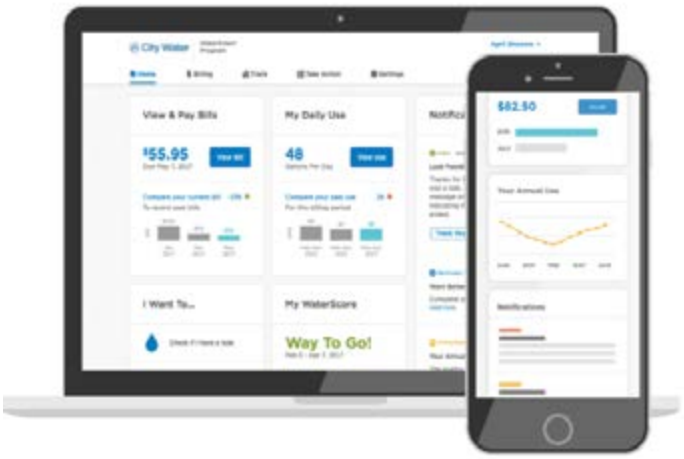
- Understand your water rates

- Get recommendations on how to find a leak, or how to use less water

- Learn how to read your meter

- Get water-saving tips & recommendations

- Make sure you get the most value from every drop of water you use in your home!



For after hour Water or Sewer Emergencies contact the Dakota Communications Center at 952-322-2323 or 911.

Find these great features at Applevalleymn.watersmart.com