

South Davis Water District

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2022 CONSUMER CONFIDENCE REPORT

We're pleased to present you with a look at the quality of the water delivered in 2022. Included in this report is a look at where your water comes from, what we are doing to protect your water from potential contaminants, how it compares to EPA and State of Utah standards, tips on maintaining safe water in your home, and how you can help conserve this precious resource. The South Davis Water District is committed to providing you with safe, clean, great tasting drinking water.

WHERE YOUR WATER COMES FROM



The SDWD's drinking water comes from 1 spring, 6 wells, and 1 surface water treatment plant. This treatment plant treats water from the Weber River. The treatment plant is owned and operated by the Weber Basin Water Conservancy District. The SDWD, like many other public water suppliers in the area, purchases some of its culinary

water from Weber Basin.

Our spring water is collected underground and diverted into a holding tank. The Enoch Spring provides millions of gallons of fresh, clean, great tasting water to the eastern bench area of the District in Bountiful.

Our North Canyon, Bona Vista, and Val Verda wells provide water to the eastern portion of Bountiful and North Salt Lake areas that reside within the SDWD. Water is boosted from these wells to two large tanks at higher elevations named 1A and 2A, where it is held for consumption. This water is both chlorinated and fluoridated before it enters these tanks.

Our three Val Vista Wells pump water to a large tank located in the middle of the District called 3A. This reservoir serves the middle portion of the District in Bountiful as well as small easterly portion of Woods Cross.

Water from the treatment plant is fed directly into the District's distribution system. This water is occasionally boosted from this location up to the 3A tank as the need arises, but the majority of this water serves the bottom portion of the District.

The chart below shows the number of gallons consumed from each source, and the percentage each source contributed.

SOURCE	GALLONS	%TOTAL
North Canyon Well	51,016,224	23.3%
Bona Vista Well	6,040,940	2.9%
Val Vista Well #1	9,966,373	4.6%
Val Vista Well #2	9,444,202	4.3%
Val Vista Well #3	14,920,296	6.8%
Val Verda Well	3,896,262	1.8%
Enoch Spring	19,614,800	8.9%
Surface Water Treatment Plant	103,626,000	47.4%

SOURCE PROTECTION AND SUSCEPTIBILITY

The SDWD has a Drinking Water Source Protection Plan that can be viewed at our office. It provides information such as potential sources of contamination and our designated source protection areas. The source protection zones for each well and spring are estimated based on the time it takes a drop of water to travel to the well or spring collection point. All of the wells in the SDWD have surface grout seals that are in good condition. The Enoch Spring has an impervious clay layer over the Enoch spring that has been found to be in good condition.

The layers of sediment above the portions of the aquifer in our area are classified as unconfined. Unconfined refers to the ability of the formation to allow potential contamination from surface activity. Unconfined aquifers are susceptible, because they do not have a barrier such as a clay layer that protects the aquifer from exposure to the surface.

Common household chemicals pose a great risk to aquifers. Paints, cleaners, motor oil, gasoline, antifreeze, and lawn & garden chemicals that are disposed of in the gutter or backyard can migrate to rivers and streams or filter down through the ground and pollute aquifers.

Residents can help to prevent water pollution by employing best management practices when storing, using, and discarding fertilizers, pesticides, and other household hazardous wastes properly.

The types of prioritized potential contamination sources, with #1 being highest risk of affecting the wells and springs, are as follows:

1. Residential and commercial pesticide, herbicide, and fertilizer use.

2. Residential sewer system leaks.
3. Streets and roadways – transport spills and road clearing with deicing salts.
4. Existing and abandoned wells that have become contaminated.

Use the following guidelines when using pesticides, herbicides, and fertilizers:

- Only purchase the amount and kind of fertilizer or pesticide needed, and store in locked dry cabinets.
- Do not allow fertilizer and pesticide spills to be washed into the storm drain system.
- Dry pesticide and fertilizer spills should be swept up and later applied at the rate specified on an area where needed.
- Liquid pesticide and fertilizer spills should be soaked up using absorbent material (such as sawdust, cat litter, or soil) and then taken to a household hazardous waste collection site.
- Never apply fertilizers near wells.
- Do not spray or apply pesticides near walks or driveways. This will help prevent pesticides from washing off into the storm drain system.

Household hazardous wastes (HHWs) are discarded materials that are ignitable, corrosive, reactive, toxic, or otherwise listed as hazardous by the EPA. Paint, used motor oil, gasoline, antifreeze, or lawn and garden chemicals that are disposed of in the gutter or your backyard can migrate to rivers or filter down through the ground and pollute aquifers. The following best management practices should be employed when handling HHWs:

- Completely use the product before disposing of the container.
- Return unused portions to community household hazardous waste collection programs.
- Do not flush HHWs down the toilet, down the sink, down a storm drain, or pour on the ground.

Please don't spoil the water supply for yourself and everyone else! Dispose of paint, used motor oil, and other hazardous chemicals in a proper and safe manner.



For more information on the nearest location for hazardous waste disposal and free disposal community events, please contact:

- Division of Solid & Hazardous Waste
(801) 536-0200
- Division of Drinking Water, Source Protection Program
(801) 536-4200
- Utah Department of Environmental Quality Hotline
1-800-458-0145

If you would like additional information on HHWs, and ways to minimize the impact of potential contamination sources on our water resources, please visit the Utah Division of Drinking Water website at:
<https://deq.utah.gov/public-interest/household-hazardous-aste-2>.

SURFACE WATER TREATMENT PROCESS



As stated above, the SDWD received 47.4% of its drinking water in 2022 from a surface water treatment plant. The following describes the treatment process used to clean and disinfect surface water.

Coagulation and flocculation are the first steps in the treatment process. The goal of this stage is to bind up the suspended particles in the raw water by adding a coagulant as it first enters the water treatment plant. Floc, which is a tuft-like aggregate, is produced from the mixing of the coagulant in the raw water.

Over time, as more suspended matter is bound, the smaller aggregates of floc become larger particles of floc.

Sedimentation is the second stage of water treatment. The objective of this stage is to remove the floc. This is accomplished as the floc settles out of the water in long sedimentation basins. The cleaner water is drained off the surface of the sedimentation basin and sent to the next stage.

Filtration is the third stage of water treatment. The purpose of this stage is to remove the remaining suspended particles and dissolved constituents. This is accomplished by passing the water through a filter

composed of different layers of sand and gravel.

Disinfection is the fourth stage of water treatment. A small amount of chlorine, or other disinfecting chemical is added. This is used to kill any remaining germs and keeps the water safe as it travels to the public. This treatment process removes cryptosporidium and giardia from the water; however, it cannot guarantee that 100% of the microbes are removed. Monitoring by Weber Basin indicates the presence of cryptosporidium and giardia in the source water. Current testing methods don't allow them to determine if the organisms are dead or if they are capable of causing disease. Therefore, UV light is administered to the water in order to prevent these microbes, if they are present, from reproducing and causing sickness.

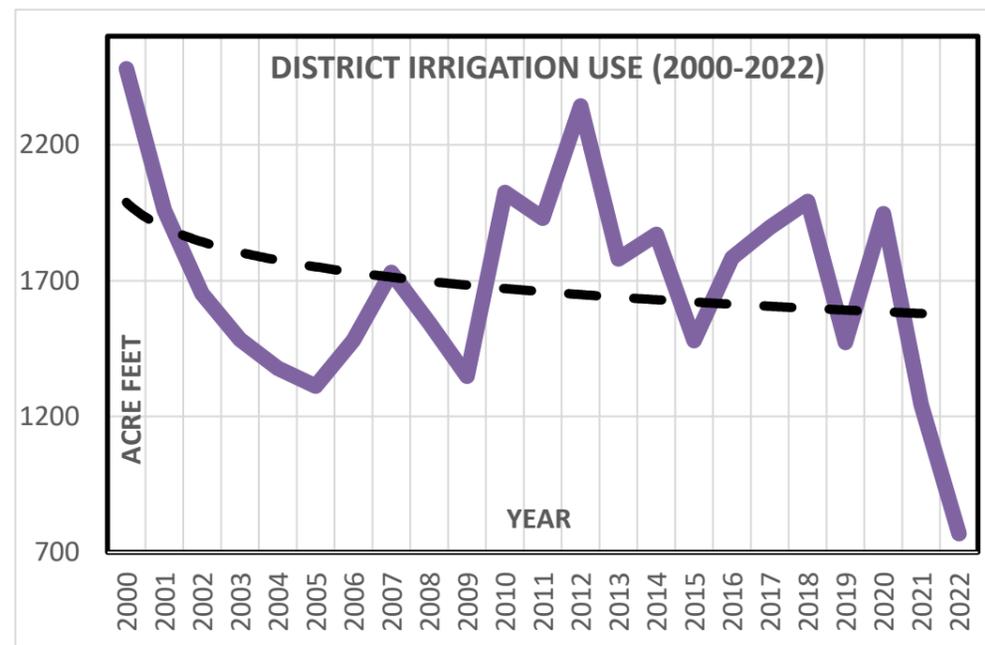
Microfiltration is the fifth stage of water treatment. At this stage the water is passed through a special pore-sized membrane to separate any remaining microorganisms and suspended particles. Disinfection is applied again as the final stage of the process.

WATER CONSERVATION

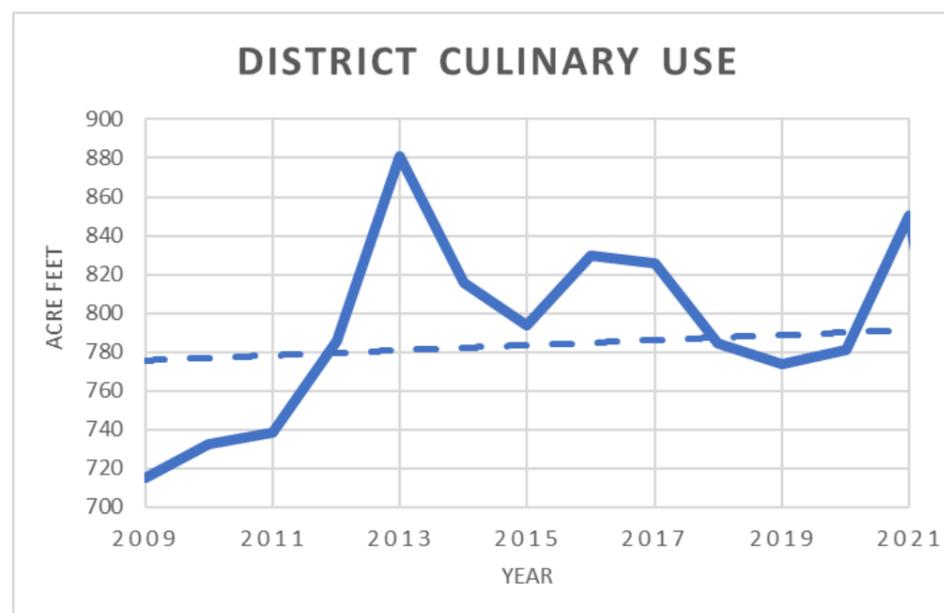
With ever increasing growth and the nature of the regional climate, there is no question that we will encounter future drought years. Future drought cycles will have an even greater effect than previous drought because of the increased population and higher demands on water systems. Conservation and improved water efficiency needs to become a way of life for all of us by incorporating better water use practices and valuing this precious resource more than ever.

The South Davis Water District is committed to conserving. The District has strongly enforced the

watering time policy, which is, residents cannot water between 10:00 a.m. and 6:00 p.m.



As the above chart shows, irrigation water usage has dropped since 2000, but is still very high. Since 2016, the District has used an estimated average of 2.4 acre feet of water per acre of irrigatable land.



The District's culinary water loss is something that the District is trying to improve by replacing old leaky pipes. Last year the District lost an estimated 53.7 million gallons from leaks and undocumented hydrant use. This was 7.9%

of our total production. Even though much of this water goes back into the aquifer to be pumped out and used down-stream, it still represents a loss of electricity, treatment chemicals, and creates unnecessary wear and tear on pumps. It also requires the District to have more storage capacity than is otherwise necessary. The District is committed to bringing this number down.

The above trendline shows that culinary use has been steadily increasing. Population increase explains much of the consumption increases. Illustrating this is the fact that culinary use has decreased per capita over the last three years, notwithstanding the population increase.

The State is asking water users to reduce per capita water use another 20% from now until 2030. This will take a significant effort on all our parts. Many residents are already trying very hard to conserve, and we are very grateful for those residents.

For more information on water conservation, please visit these web sites:

<http://www.weberbasin.com/Conservation/LearningGarden>

<http://www.weberbasin.com/Conservation/ClassCalendar>

<http://www.weberbasin.com/Conservation/Rebates>

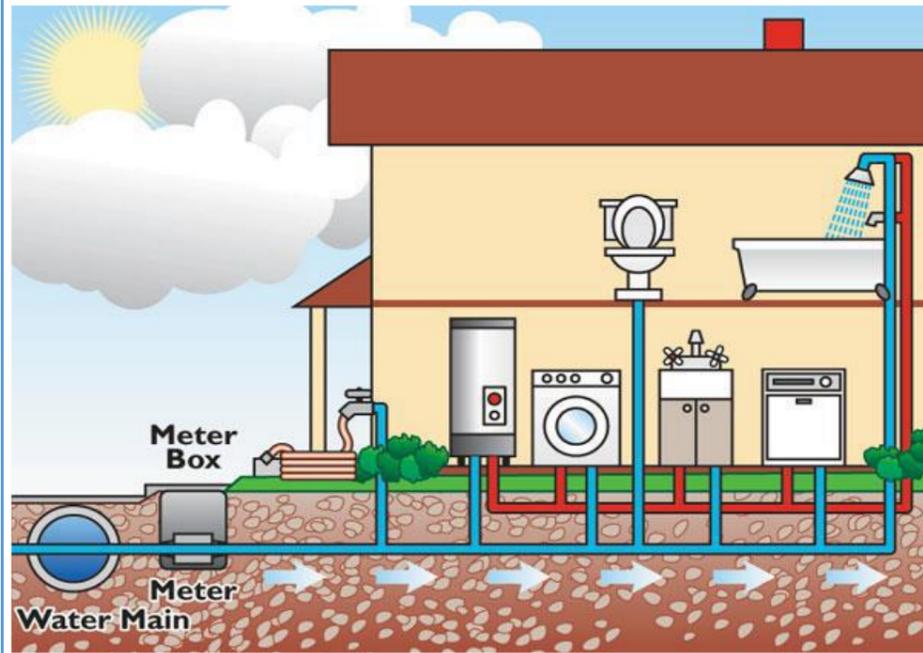
<http://www.slowtheflow.org>

<http://www.conservewater.utah.gov>

<http://www.conservationgardenpark.org>

<http://www.utahwatersavers.com>

WATER QUALITY INSIDE YOUR HOME



Once the water passes from our system and through the meter, you become a partner with us in making sure it stays fresh and clean. Here are some things to consider.

Water Heater

Check the temperature setting for your water heater. Water that is too hot can create a burn hazard, while water that is too cool can create a perfect environment for bacteria to grow. You may also want to consider installing a pressure regulator to prevent any sudden surges to your water heater. These can be found at any general plumbing supply store, or you can have a plumber install one for you.



Filters and Purifiers

All types of filters and purifiers (point of use devices) need to be properly maintained and monitored. Neglected devices may not work as intended; become a haven for

microbial growth; or shed filter material into your home's tap water. Even the filter in your refrigerator needs to be properly maintained to protect your family.

Water Softeners

Since the hardness of your water can range anywhere from 14 to 30 grains per gallon, it is important to monitor the settings on your water softener regularly to make sure that you are treating your water properly. Over treating your water is wasted money while under treating is not effective.



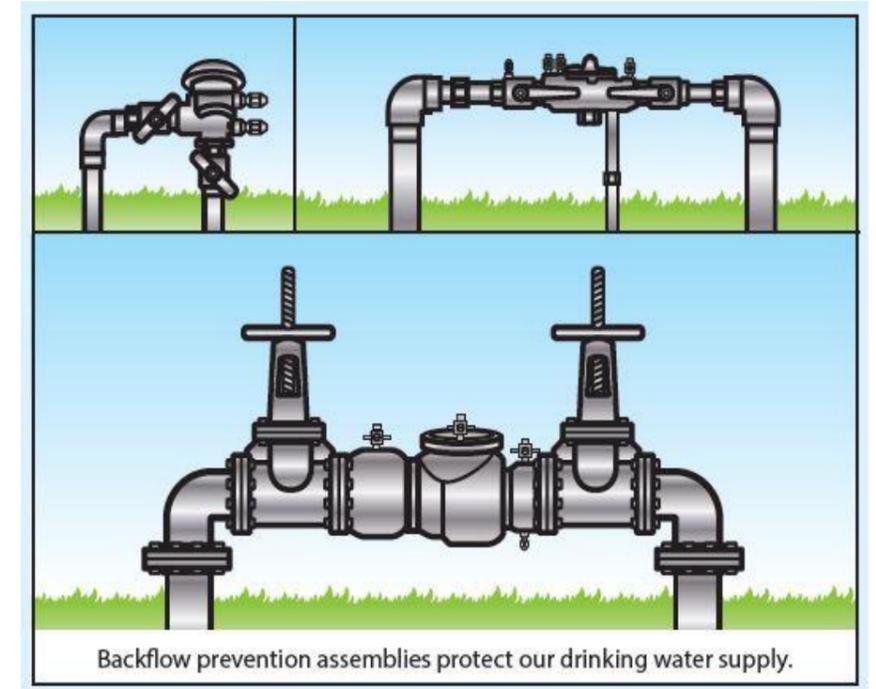
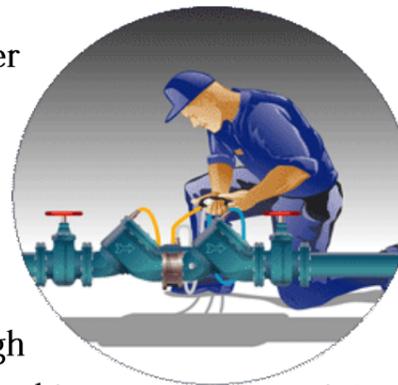
Unused Rooms

If you have a kitchen or bathroom that rarely gets used, you should make a point of running water through the faucets on a frequent basis. Stagnant pipes and fixtures are susceptible to microbial growth. Flushing unused water lines regularly will help prevent this.

BACKFLOW & CROSS-CONNECTION

A backflow event is when water that is potentially contaminated is pushed or drawn into a culinary water supply.

One type of backflow event can be created through a high pressure contaminated source pushing into a clean potable source. An example of this occurrence could be a dentist office using a suction device which uses a water pump creating a venturi effect by accelerating the



water through pressurization. If the suction device does not have a proper backflow device installed; this pressurized, contaminated water could enter the culinary supply.

Another type of backflow event can be created by a negative pressure or suction effect. One example could be a culinary sprinkler system tied into the home's culinary service line without a backflow assembly. If the residents use enough water in the house that there is a vacuum created sucking air through the sprinkler heads, contaminating the resident's water supply with fertilizer or E. coli bacteria.

A cross-connection is when there exists a physical connection between a potable source of water and a source of contamination. The most worrisome cross-connection in our area is that of a culinary service line being connected into an irrigation main or vice versa. Fortunately, neither of these have occurred in our District, but it has occurred in other areas. It usually results in people becoming very sick. The District monitors contractors very closely in order to prevent this sort of

cross-connection.

There are other connections that are not technically cross-connections because they have a check valve, but the check valve system they have is not up to today's standards. One such connection is the *Utah Riser*. This fire suppression connection is actually allowed in businesses as long as they were existing before new laws were put into place. Most of these fire sprinklers have propylene glycol in them to prevent freezing. The check valves that are on the *Utah Riser* are not up to current standards, but because it would cost the business owner so much to upgrade, the State lets them slide. The check valves on these risers can leak, and there is no means of testing them.

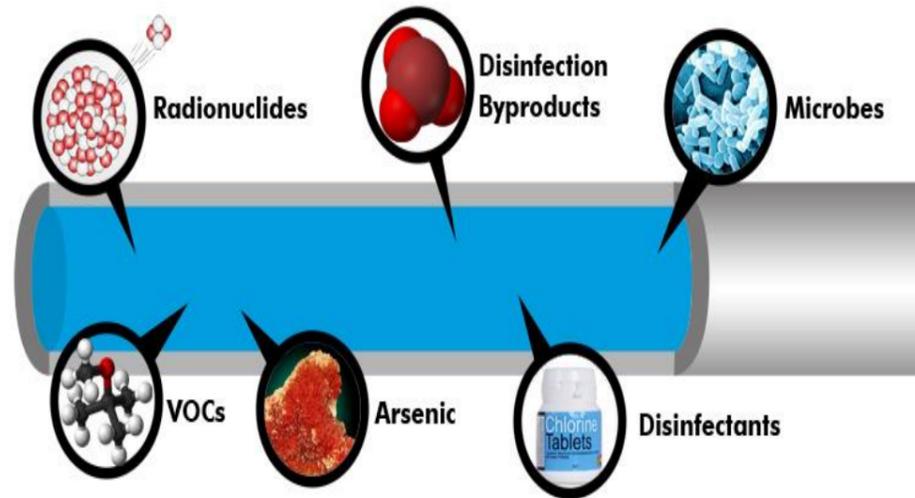
You will usually know your fire suppression system is leaking if there is a very distinctive smell and taste. If there is propylene glycol in your water supply it will smell and taste like a rotting onion. Even though propylene glycol isn't toxic, it is extremely unpleasant to drink or smell. If you have a fire suppression system in your place of business, and you start tasting and smelling onions in your water, chances are very high that your fire suppression system is leaking into your water supply. We would highly recommend not waiting until it leaks, however. Just get your *Utah Riser* replaced with a proper unit that can be tested annually.

You are required to have your backflow device tested by a certified technician every year. This report must be sent to the water department. It is imperative that you have the correct assembly installed, and that it is tested annually.

If you have any questions regarding potential cross-connections or backflow devices, please contact the water department.

POSSIBLE CONTAMINANTS IN THE WATER

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.



The sources of our drinking water include rivers, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material. The flowing water can pick up substances resulting from the presence of animals or from human activity. Below are some of these contaminants that may be present in source water.

MICROBIAL CONTAMINANTS, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that potentially harmful bacteria may be present. Utah DDW regulations require the District to test a minimum of 10 samples per month for total coliform and *E. coli* bacteria. The District did not have any positive samples in 2020 for total coliform or *E. coli*.

INORGANIC CONTAMINANTS, such as salts and metals, can be naturally-occurring or result from urban storm water runoff, industrial, domestic wastewater discharges, oil and gas production, mining, or farming.

PESTICIDES and **HERBICIDES** may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

ORGANIC CHEMICALS, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.



RADIOACTIVE CONTAMINANTS can be naturally-occurring or be the result of oil and gas production and mining activities.

LEAD, if present in elevated levels, can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing.

The District is responsible for providing high quality

drinking water, but cannot control the variety of materials used in plumbing components from the meter to the home. When your water has been sitting for an extended period, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking.



The District samples from homes known to have galvanized service lines. If your service line is galvanized, it is highly recommended that you replace it.

For more information on lead in drinking water, contact the Safe Drinking Water Hotline at (1-800-426-4791), or visit <http://www.epa.gov/safewater/lead>.

RADON is a radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can be released into the air via water, and then inhaled.

At this time, radon monitoring is not required by the EPA; however, the EPA is considering making radon monitoring a requirement. The proposed MCL for radon is 4,000 pCi/L for systems which have a public education program for radon.

CRYPTOSPORIDIUM and **GIARDIA** are microbial pathogens found in surface water throughout the U.S.

Although filtration removes cryptosporidium and giardia, the most commonly-used filtration methods cannot guarantee 100 percent removal. Monitoring conducted by Weber Basin indicates the presence of cryptosporidium and giardia in the raw water prior to treatment. Weber Basin uses UV light in the water treatment, which inhibits these organisms from reproducing and causing sickness.

Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

CHROMIUM is an odorless and tasteless metallic element. Chromium is found naturally in rocks, plants, soil, volcanic dust, and animals. The most common forms of chromium that occur in natural waters in the environment are: Trivalent chromium (chromium-3) and Hexavalent chromium (chromium-6). Chromium-3 is an essential human dietary element. It is found in many vegetables, fruits, meats, grains, and yeast.

Chromium-6 occurs naturally in the environment from the erosion of natural chromium deposits. It can also be produced by industrial processes. There are demonstrated instances of chromium being released to the environment by leakage, poor storage, or inadequate industrial waste disposal practices.

Chromium 6 is the more toxic of the two forms of chromium. The District tested for Chromium 6 in 2014 and found no trace of this contaminant in the water at that time.

PFAS are a group of manufactured chemicals that have been used in industry and consumer products since the 1940s. One common characteristic of concern with PFAS is that many of these chemicals break down very slowly, and can build up in people, animals, and the environment over time.

People can be exposed to PFAS in a variety of ways, including drinking contaminated water, eating certain contaminated foods, swallowing contaminated dust, or using products made with PFAS.

The District is testing for PFAS in 2023, as part of EPA's UCMR 5 testing series. It is very unlikely that PFAS will be found in the District's wells or spring. The greatest concern for the District is the possibility that the treated surface water that the District purchases from Weber Basin Water Conservancy District could contain PFAS. Current surface water treatment is not capable of filtering PFAS chemicals. It is very expensive to remove PFAS from water, and would signify a very large investment in new treatment equipment.

We are committed to providing safe water to our customers, and we will do what is necessary to do this.

WATER TESTING

The water provided by the South Davis Water District meets or exceeds all EPA and Utah State water quality requirements. The treated surface water that the District purchases from Weber Basin has won numerous awards for water taste and quality.

We at the South Davis Water District are committed to providing our residents with the best possible drinking water. We strive to go the extra mile with our water

quality.

DEFINITIONS AND TERMS

The following are definitions for some terms and abbreviations that you may be unfamiliar with.

Detected Contaminant - Any contaminant detected at or above its minimum detection limit (MDL)

MDL - Minimum Detection Limit is the lowest level at which a contaminant is detected with a specified degree of certainty.

MCLG - Maximum Contaminant Level Goal is the level of a contaminant in drinking water below which there is no known or expected risk to health.

MCL - Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water.

LRAA - Location-based running annual average.

NA - Not applicable (*there is no Federal or State MCL and/or MCLG*)

ND - Not detected

NTU - Nephelometric Turbidity Unit (a measure of the cloudiness of the water)

PPM - parts per million, or milligrams per liter (mg/l)

PPB - parts per billion, or micrograms per liter (µg/l)

pCi/L - picocuries per liter (a measure of radioactivity)

The following page contains all the regulated and unregulated drinking water contaminants that we detected

during this year. We test for over 130 contaminants (i.e., pesticides, herbicides, organic compounds, etc.) with almost all being non-detectable.

Not all contaminants are required to be sampled for every year. The EPA and State of Utah have established that, in some circumstances, if a source of water goes a determined period of time without having detected certain contaminants, or the detected contaminants remain at consistently low levels for a determined period of time, that source may qualify for reduced monitoring.

Some of the surface water data, though representative, are more than one year old. Because the concentrations of certain contaminants do not change frequently, the state allows less frequent monitoring.

The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. These contaminants are harmful if ingested in certain amounts. The EPA determines these amounts for public water systems, and creates regulations that allow for a large cushion of safety. The FDA regulates limits for bottled water companies. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those undergoing chemotherapy for cancer treatment, persons who have undergone organ transplant, people with immune system disorders, some elderly, and infants can be particularly at risk from infections. These people 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 infections by

Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Contact Person

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REGULATED INORGANIC CONTAMINANTS -- Data is derived from samples collected from 2017 through 2022.

<u>Contaminants</u>	<u>Average</u>	<u>Low</u>	<u>High</u>	<u>MCL</u>	<u>MCLG</u>	<u>Violation</u>	<u>Typical Sources</u>
Arsenic (ppb)	.0008	ND	.0008	10	NA	NO	Erosion of natural deposits; runoff from orchards.
Barium (ppm)	0.167	.066	.199	2	2	NO	Erosion of natural deposits; discharge of drilling wastes.
Fluoride ¹ (ppm)	0.68	.051	2.1	4	4	NO	Erosion of natural deposits; water additive.
Nitrate (ppm)	2.14	.86	3.9	10	10	NO	Runoff from fertilizer use; erosion of natural deposits.
Selenium (ppb)	0.62	0.0006	1.3	50	50	NO	Erosion of natural deposits; discharge from mines.
Sodium (ppm)	93.2	35.6	104	NA ²	NA	NA	Erosion of natural deposits.
Sulfate (ppm)	35.3	29	44	1,000 ³	NA	NO	Erosion of natural deposits.
Total Dissolved Solids (ppm)	904	488	1070	2,000	NA	NO	Erosion of natural deposits.
Cyanide (ppb)	0.66	ND	4	200	200	NO	Discharge from metal, plastic, or fertilizer factories.

¹Fluoride levels in the District are adjusted to maintain levels between 0.6 and 0.8 ppm.
²The State of Utah requires monitoring for sodium even though no MCL has been established.
³The MCL for sulfate and total dissolved solids is established by the State of Utah.

REGULATED VOLATILE ORGANIC CONTAMINANTS (Disinfection Byproducts) – Data derived from 2022 samples.

<u>Contaminants</u>	<u>LLRA¹</u>	<u>Low</u>	<u>High</u>	<u>MCL</u>	<u>MCLG</u>	<u>Violation</u>	<u>Typical Sources</u>
Trihalomethanes (ppb)	25.8	9.9	44	80	NA	NO	By-product of drinking water chlorination.
Haloacetic Acids (ppb)	13.2	7.1	36.8	60	NA	NO	By-product of drinking water chlorination.

¹This value represents the running annual average for 2022.

REGULATED MICROBIOLOGICAL CONTAMINANTS – Data derived from 2022 samples. (Bacteria testing derived from 120 samples)

<u>Contaminants</u>	<u>HMNP¹</u>	<u>MCL</u>	<u>MCLG</u>	<u>Violation</u>	<u>Typical Sources</u>
Total Coliform Bacteria	0	1 SAMPLE	0	NO	Naturally present in the environment.
Fecal Coliform & E. coli	0	1 SAMPLE	0	NO	Human and animal fecal waste.

<u>Contaminants</u>	<u>Percentage</u>	<u>MCLG</u>	<u>High²</u>	<u>MCL</u>	<u>Typical Sources</u>
Turbidity	100% ³	0.00 NTU	0.12 NTU	0.3 NTU	Sediments from runoff.

¹Highest monthly number of positive samples.
²This value represents the highest single measurement of combined filter readings taken every four hours during 2022.
³This value represents the lowest monthly percentage of combined filter readings meeting less than 0.3 NTU in at least 95% of the measurements taken each month during 2022.

REGULATED RADIOLOGIC CHEMICALS -- Data is derived from samples collected from 2015 through 2019.

<u>Contaminants</u>	<u>Average</u>	<u>Low</u>	<u>High</u>	<u>MCL</u>	<u>MCLG</u>	<u>Violation</u>	<u>Typical Sources</u>
Gross Alpha Particles (pCi/L)	1.27	-.05	5.6	15	0	NO	Erosion of natural deposits.
Gross Beta Particles (pCi/L)	4.07	2.4	7.0	50	0	NO	Decay of natural and man-made deposits.
Combined Radium (pCi/L)	0.56	0.16	0.88	5	0	NO	Erosion of natural deposits.