Kaysville City 2013
Annual Drinking Water Quality Report

Kaysville City is pleased to provide you with this report. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is, and always has been, to provide to you a safe and dependable supply of drinking water. We are pleased to report that our drinking water meets Federal and State requirements. This report shows our water quality and what it means to you. Your water is routinely monitored to ensure that drinking water standards established by the Safe Drinking Water Act and the U.S. Environmental Protection Agency are met. There are many connections to our water distribution system. When connections are properly installed and maintained, concerns are very minimal. Unapproved and improper piping changes or connections can adversely affect not only the availability, but also the quality of the water. A cross connection may let polluted water or even chemicals mingle into the water supply system when not properly protected. This not only compromises the water quality, but can also affect your health. Do not make or allow improper connections at your home. Even that unprotected garden hose lying in the puddle next to the driveway is a cross connection. The unprotected lawn sprinkling system after you have fertilized or sprayed is also a cross connection. When the cross connection is allowed to exist at your home, it will affect you and your family first. If you would like to learn more about helping to protect your quality of water, contact us.

WHERE YOUR WATER COMES FROM

Surface water and groundwater

The Weber Basin Water Conservancy District's (District) drinking water supply comes from the Weber River and from several creeks along the Wasatch Front. Groundwater, primarily from the Delta Aquifer, is used to supplement surface water sources.

How drinking water gets to you?

Although a portion of drinking water originates as groundwater and is extracted from deep wells, the majority of the drinking water supply begins as surface water from the headwaters of the Weber River. Water is directed into a large canal by a diversion dam. The water then flows through this canal whereupon it enters two large aqueducts. Several creeks along the Wasatch Front can also feed into this aqueduct system. From there, water is transported to each of the District's water treatment plants. After complete treatment, water is delivered to the cities or water improvement districts for final distribution to individual users.

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HOW THE CITY PROTECTS DRINKING WATER SOURCES

Weber Basin Water Conservancy District has completed a Drinking Water Source Protection Plan for all its surface water public drinking sources. The Drinking Water Source Protection program includes identification of the area from which the drinking water source receives water, an assessment of the potential contamination threats to the source within this area, and management programs to help control both existing and future potential sources of contamination. Copies of this plan can be obtained from the District office for a nominal fee. The State Division of Drinking Water also has a copy on file. Each significant potential source of contamination has been analyzed and assigned a qualitative susceptibility rating according to its potential to impact the water supply. This rating includes such factors as the likelihood of a release of potential contaminants, the ability of the potential contaminant to travel to the river or stream and the ability of the intake to bypass contamination.

Kaysville City

23 East Center Street
Kaysville, Utah 84037
801-544-8112
www.kaysvillecity.com

Kaysville City Council

Steve A. Hiatt, Mayor
Mark Johnson
Ron Stephens
Jared R. Taylor
Brett Garlick
Susan Lee

Questions

If you have questions about this report or matters concerning your water utility, contact Jeff Brown at 801-544-8112

Information

Culinary water meters are read bi-monthly. Culinary water is the water used inside your home. Utility bills show a minimum charge the month your meter is not read and a charge for two months usage the following month your meter is read.

Secondary (or pressure irrigation) water is the water used outside your home. The tap for this water is usually painted red as a warning not to drink this water because this water is untreated. Do not allow your children to drink or swim in this water. Secondary water is not metered, therefore, usage is not restricted.

To save money on your water charges, do not use culinary water outdoors.

WHY ARE CONTAMINANTS IN THE DRINKING WATER?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these constituents does not necessarily pose a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791. The sources of our drinking water include rivers, streams, reservoirs, 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, and can pick up substances resulting from the presence of animals or from human activity. Below are some of these contaminants and their typical sources.

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

Inorganic contaminants, such as salts and metals, can be naturally-occurring or result from urban storm water runoff, industrial, or 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 chemical contaminants, 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. In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

HOW ARE CONTAMINANTS REMOVED?

Raw water typically contains varying amounts of dissolves constituents and suspended particles. Complete water treatment is simply the process of trying to remove these dissolved constituents and suspended particles. The Weber Basin Water Conservancy District operates three water treatment plants. The basic stages of water treatment employed at each of these plants are coagulation and flocculation, sedimentation, filtration, and disinfection.

COAGULATION AND FLOCCULATION is the first stage in water treatment. The goal of this stage is to bind up as much as possible the suspended particles contained in the raw water. This is accomplished by adding a coagulant to the raw water as it enters the plant from the aqueduct. What is produced from the mixing of the coagulant with the raw water are tuft-like aggregates called flocs. Flocculation is the name of the process. Over time the smaller aggregates of floc become larger particles of floc as more suspended matter is bound.

SEDIMENTATION is the second stage of water treatment. The goal of this stage is to settle out the floc and heavier materials. This is accomplished as the larger particles of floc and other heavy suspended material settle out of the water in long sedimentation basins. The resulting sediment at the bottom of the basin is sent to drying beds while the cleaner water is drained off the sedimentation basin and sent to filtration.

FILTRATION is the third stage of water treatment. The goal of the filtration stage is to remove as much of the remaining suspended particles and dissolves constituents as possible. This is accomplished by passing the water through a filter composed of sand and granulated activated carbon.

DISINFECTION is the final stage of water treatment. The goal of this stage is to destroy or inactivate disease-causing organisms. This is accomplished by adding chlorine to the filtered water.

DO YOU NEED TO TAKE SPECIAL PRECAUTIONS?

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 transplant, people with HIV/AIDS or others immune systems 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. EPC/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 Water Drinking Hotline (800-426-4791).

WHAT'S IN YOUR WATER?

The tables on the following pages list all of the regulated and unregulated drinking water contaminants that we detected during the year. Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants. Some of our 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. **Note that the presence of contaminants in the water does not necessarily indicate that the water poses a health risk.**

RESULTS OF CRYPTOSPORIDIUM MONITORING

We are required to test our sources of drinking water, as well as our treated tap water, for the presence of Cryptosporidium. We test for this contaminant quarterly in both source water and treated water. Although small amounts were found in the source water, we did not find any in the treated water that goes to your tap. Cryptosporidium is a microbial parasite which is found in surface water throughout the United States. Although Cryptosporidium can be removed by filtration, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring of source water and or finished water indicates the presence of these organisms. Unfortunately, current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of an infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the disease within a few weeks. However, immuno-compromised people have more difficulty and are at greater risk of developing severe, life-threatening illness. Immuno-compromised individuals are encourages to consult their doctor regarding appropriate precaution to take to prevent infection. Cryptosporidium must be ingested for it to cause disease, and it may be spread though means other than drinking water. We constantly monitor the water supply for various constituents.

RESULTS OF RADON MONITORING

There is no federal regulation for radon levels in the drinking water. Exposure to air transmitted radon over a long period of time may cause adverse health effects.

Radon is a radioactive gas which is naturally occurring in some ground water. It poses a lung cancer risk when the gas is released from your water into the air (as occurs during showering, bathing, or washing dishes or clothes) and a stomach cancer risk when you drink water containing radon. Radon gas released from drinking water is a relatively small part of the total radon in air. Other sources are radon gas from soil which enters homes through foundations, and radon inhaled directly while smoking cigarettes. Experts are not sure exactly what the cancer risk is from a given level of radon in your drinking water. If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information on how to have your home tested, contact the Project Environment Radon Hotline 1-800-458-0145. Kaysville City routinely monitors for constituents in our drinking water in accordance with the Federal and Utah State laws. The following tables show the results of our monitoring for the period of January 1st to December 31st, 2013. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. Its important to remember that the presence of these constituents does not necessarily pose a health risk.

In the following table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Action Level (AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Date - because of required sampling time frames i.e. yearly, 3 years, 4 years and 6 years, sampling dates may seem out of date.
Maximum Contaminant Level (MCL) - (mandatory language) The "Maximum Allowed" (MCL) is 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.
Maximum Contaminant Level Goal (MCLG) - (mandatory language) The "Goal" (MCLG) is 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.
ND/Low-High - For water systems that have multiple sources of water, the Utah Division of Drinking Water has given water systems the option of listing the test results of the constituents in one table, instead of multiple tables. To accomplish this, the lowest and highest values detected in the multiple sources are recorded in the same space in the report table.
Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5NTU is just noticeable to the average person.
Non-Detects (ND) - Laboratory analysis indicates that the constituent is not present.
Parts per million (ppm) or Milligrams per liter(mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.
Parts per billion (ppb) or Micrograms per liter (ug/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000
Picocuries per liter (pCi/L) - Picocuries per liter is a measure of the radioactivity in water.
Treatment Technique (TT) - (mandatory language) A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
Waivers (W) - Because some chemicals are not used or stored in areas around drinking water sources, some water systems have been given waivers that exempt them from having to take certain chemical samples, these waivers are also tied to Drinking Water Source Protection Plans.

WELLHEAD PROTECTION PLANS

A Wellhead Protection Plan has been written and implemented for all Districts' groundwater sources. These plans define the protection zones for each of the wells, list the potential contamination sources within the zones, and identify what safeguards are in place to protect the aquifer (natural underground water storage formations made of silts, sands, gravels, and cobbles) from the contamination sources. It also consists of a plan to further monitor the contamination sources and educate those businesses or industries that may become sources.

HOW TO PREVENT WATER POLLUTION

The water you drink comes from reservoirs and pumped from deep wells. Paint, used motor oil, gasoline, antifreeze, or lawn and garden chemicals that you dispose of in the gutter or your backyard can migrate to the rivers or filter down through the ground and pollute aquifers. 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. You can call the Division of Environmental Health at 801-944-6697 for the nearest location for hazardous waste disposal.

REGULATED INORGANIC CONTAMINANTS

This data is derived from samples collected from 2006 through 2013

Contaminants	AVG	Low	High	MCL	MCLG	Typical Source
1. Antimony (ppb)	0.6	ND	0.6	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
2. Arsenic (ppm)	0.6	ND	1.2	10	ND	Erosion of natural deposits; runoff from orchards
3. Asbestos	MFL	ND	0.17	7	7	Decay of asbestos cement in water mains; erosion of natural deposits
4. Barium (ppm)	.15	0.08	0.26	2	2	Erosion of natural deposits; discharge of drilling wastes
5. Copper (ppb)	.914	.030	1.66	1.3	0	Corrosion of household plumbing systems, erosion of natural deposits; leaching from wood preservatives
6. Fluoride (ppm)	.71	0.4	1.1	4	4	Fluoridated water in distribution system: Erosion of natural deposits
7. Lead (ppb)	.0037	ND	.015	0.015	0	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
8. Total (ppm) Nitrate+Nitrate	.05	0.12	1.6	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
9. Sodium (ppm)	32	13.9	61.5	NA	NA	Erosion of natural deposits
10. Sulfate (ppm)	31.6	12	59	1000	NA	Erosion of natural deposits
11. Thallium (ppb)	0.6	ND	1.0	2	0.5	Leaching from ore-processing sites; discharge from electronics, glass and drug factories
12. Total Dissolved Solids (ppm)	372	315	416	2000	NA	Erosion of natural deposits

REGULATED ORGANIC CONTAMINANTS

This data is derived from distribution locations sampled in 2013

Contaminants	RRA	Low	High	MCL	MCLG	Typical Source
Total Trihalomethanes (ppb)	22.58	19.35	25.95	80	NA	By-product of drinking water chlorination
Haloacetic Acids (ppb)	11.0	9.67	12.45	60	NA	By-product of drinking water chlorination

REGULATED MICROBIOLOGICAL CONTAMINANTS

This data is derived from samples collected from 2006 through 2013

Contaminant	Percentage	MCL	MCLG	Typical Source
Total Coliform Bacteria	3.49	5%	0	Naturally present in the environment

Total coliform bacteria were found in our drinking water during the period 6/01/2013 to 6/30/2013 in enough to violate a standard. Through flushing and chlorinating we are pleased to report drinking water meets Federal and State standards.

REGULATED RADIOLOGIC CHEMICALS This data is derived from 2006 sampled in 2013						
Contaminant (Units)	**AVG**	**Low**	**High**	**MCL**	**MCLG**	**Typical Source**
Gross Alpha Particles (pCi/L	3.0	2.7	3.6	15	0	Erosion of natural deposits
Combined Radium (pCi/L	0.7	0.6	1.0	5	0	Erosion of natural deposits

Descriptions of the significant potential sources of contamination located with in the area tributary to the District's surface water sources are listed below.

Potential sources of Contamination Score	**Description of Contaminants**	**Potential risk to Surface Water**
Transportation of hazardous material along roadways and railroads	Accidents along highways and other major roads and along railroads could lead to spills of hazardous materials, which could lead to contamination of surface water sources.	67 to 70
Industrial manufacturers and related companies and large commercial production and maintenance operations	Products and materials are used and stored in various quantities at these companies including acids, solvents, waste oils, other oils, gasoline diesel fuel, and other chemicals. Spills of these products and materials Could lead to contamination of surface water sources.	55 to 69
Rural residential areas	Household septic systems that are failing contain bacteria and viral Pathogens that are discharged directly into the ground and may eventually the surface water source. Fuels, fertilizer, and pesticides that may be used and stored also have the potential to contaminate.	54 to 68
Agricultural activities	Runoff containing fertilizers, herbicides, and pesticides applied to croplands could enter the surface water sources. Also, runoff containing bacteria and viruses from pastures or animal farms has the potential to enter the surface water sources.	30 to 64
Mineral producers	Tunnels or striped land from mining operations could lead to higher acidity or sediment loads in surface water sources	42 to 55
Sewage treatment facilities	Untreated sewage could discharge directly into the surface water source in extreme or emergency conditions	22 to 35
Camping areas and other recreational activities	Camping wastes and fuel used for recreational vehicles have the potential to be spilled and enter the surface water sources.	25 to 27
Underground fuel storage	Fuel in underground storage tanks may enter groundwater and eventually reach the surface water sources if a leak occurs in the tank.	10 to 25

The susceptibility of the various water sources are given below.

WATER SOURCE	**SUSCEPTIBILITY TO CONTAMINATION**	**RATIONALE FOR SUSCEPTIBILITY RANKING**
Weber River Watershed	High	Presence of many potential sources of contamination
Farmington Creek Canyon	Moderate	Presence of a few potential source of contamination
Burch Creek, Shepard Creek, Steed Creek Ricks Creek and Stone Creek	Low	No potential sources of contamination

Culinary Water Conservation Tips

Wash only full loads of laundry.
Fix leaking faucets, pipes, toilets, etc.
Install water saving devices in faucets and appliances.
Do not let water run while shaving or brushing teeth.
Promptly replace salt in water softener when necessary.
Shorten your shower.

Secondary Water Conservation Tips

Don't water outside between 10:00 a.m. to 6:00 p.m.
Use mulch around plants and shrubs.
Don't allow children to play with the hose.
Sweep driveways and patios instead of using hose.
Use a drip irrigation system in your garden.
Use bucket to wash car and save hose for rinsing.

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 pervious 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. Weber Basin Water Conservancy District has a goal of reducing per capita water use 25% by the year 2050. Our thanks to those who have made and are making any effort to improve efficiency and conserve our water resources. It is still necessary to continue this effort to conserve water by educating ourselves on proper irrigation practices and changing attitudes and behaviors to reduce water waste.

Conservation alone will not meet future water needs and the District will continue to develop water supplies, build new infrastructure and maintain the current infrastructure. However, future water projects are costly and limited so we all need to be more efficient with our current water supply which will help delay these costly future projects while maintaining your current lifestyle. If we each save a little, we all save a lot!

Kaysville City Corporation
23 East Center Street
Kaysville, UT 84037

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U.S. Postage
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Kaysville, UT
84037

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KAYSVILLE, UT 84037