

Water Quality Report

Salem City

2015

We're pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water sources have been determined to be from groundwater sources. Our water sources are 2 springs grouped together at Upper Water Canyon and 2 wells named Existing Well and Maple Well.

The Drinking Water Source Protection Plan for Salem City is available for your review. It contains information about source protection zones, potential contamination sources and management strategies to protect our drinking water. Our sources have been determined to have a low level of susceptibility from potential contamination. We have also developed management strategies to further protect our sources from contamination. Please contact us if you have questions or concerns about our source protection plan.

There are many connections to our water distribution system. When connections are properly installed and maintained, the concerns are very minimal. However, 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. So, what can you do? Do not make or allow improper connections at your homes. Even that unprotected garden hose lying in the puddle next to the driveway is a cross connection. The unprotected lawn sprinkler 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'd like to learn more about helping to protect the quality of our water, call us for further information about ways you can help.

This report shows our water quality and what it means to you our customer.

If you have any questions about this report or concerning your water utility, please contact **Chris Averett at 801-423-2770**. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on **the 1st and 3rd Wednesday of each month at 7:00 pm at the city building**.

Salem City routinely monitors for constituents in our drinking water in accordance with the Federal and Utah State laws. The following table shows the results of our monitoring for the period of January 1st to December 31st, 2015 All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's 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:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

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.

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.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l) - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Action Level (AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level (MCL) - 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) - 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.

Maximum Residual Disinfectant Level (MRDL) - 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.

Maximum Residual Disinfectant Level Goal (MRDLG) - 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.

Date- Because of required sampling time frames i.e. yearly, 3 years, 4 years and 6 years, sampling dates may seem out-dated.

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.

TEST RESULTS							
Contaminant	Violation Y/N	Level Detected ND/Low-High	Unit Measurement	MCLG	MCL	Date Sampled	Likely Source of Contamination
Microbiological Contaminants							
Total Coliform Bacteria	Y	1	N/A	0	Presence of coliform bacteria in 5% of monthly samples	2015	Naturally present in the environment

Fecal coliform and <i>E.coli</i>	Y	ND	N/A	0	If a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive	2015	Human and animal fecal waste
Turbidity for Ground Water	N	0-0	NTU	N/A	5	2012	Soil runoff
Inorganic Contaminants							
Barium	N	63-64	ppb	2000	2000	2012	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper a. 90% results b. # of sites that exceed the AL	N	a.0.161 b.0	ppm	1.3	AL=1.3	2013	Corrosion of household plumbing systems; erosion of natural deposits
Fluoride	N	200	ppb	4000	4000	2012	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead a. 90% results b. # of sites that exceed the AL	N	a. 2.8 b.0	ppb	0	AL=15	2013	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	N	1	ppm	10	10	2015	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	N	9-16	ppb	50	50	2012	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium	N	4-5	ppm	None set by EPA	None set by EPA	2012	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills.
Sulfate	N	21	ppm	1000	1000	2012	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills, runoff from cropland
TDS (Total Dissolved solids)	N	222-224	ppm	2000	2000	2012	Erosion of natural deposits
Disinfection By-products							
TTHM [Total trihalomethanes]	N	1.2	ppb	0	80	2014	By-product of drinking water disinfection
Chlorine	N	1.1	ppm	4	4	2014	Water additive used to control microbes
Radioactive Contaminants							
Alpha emitters	N	6	pCi/l	0	15	2015	Erosion of natural deposits
Radium 226	N	ND-1	pCi/l	0	5	2011	Erosion of natural deposits
Radium 228	N	0.31	pCi/l	0	5	2015	Erosion of natural deposits

Total Coliform. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

Fecal coliform/E.Coli. Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised.

If present, elevated levels of lead 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. Salem City is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, 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. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Water samples taken in September 2015 confirmed the presence of total coliform bacteria. Total coliforms are common in the environment and are generally not harmful themselves. The presence of these bacteria is usually a result of a problem with water treatment or the pipes which distribute the water, and indicates that the water may have been contaminated with organisms that can cause disease. Symptoms may include diarrhea, cramps, nausea, and possible jaundice, and any associated headaches and fatigue. When the monthly samples confirmed the presence of total coliform bacteria we took steps to identify and correct the problem. Subsequent monthly sampling has confirmed the absence of total coliforms in the water system.

We constantly monitor for various constituents in the water supply to meet all regulatory requirements. In September and October 2015 we failed to test for coliform bacteria at our source(s). Water quality may change without any visible indication due to unanticipated environmental factors. For this reason, we are required to sample for coliform bacteria at our source(s) when coliform has been detected in the distribution system. This violation does not necessarily pose a health risk. We have reviewed why we failed to take our routine coliform bacteria tests and have taken steps to ensure that it will not happen again.

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or man made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. All 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 the water poses 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.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Total Coliform: The Total Coliform Rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio. To comply with the stricter regulation, we have increased the average amount of chlorine in the distribution system.

Nitrates: As a precaution we always notify physicians and health care providers in this area if there is ever a higher than normal level of nitrates in the water supply.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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. These people should seek advice from their health care providers about drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

We at Salem City work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.