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2014 WATER QUALITY REPORT

Layton City is pleased to present you with the 2014 Drinking Water Quality Report. This report contains information about the quality of the water delivered to you everyday. The City's constant goal is to provide you with a safe and dependable supply of drinking water, and we want you to understand the efforts made to continually improve the water treatment process and protect your water resources. Layton City is committed to ensuring the quality of your water.

Layton City's drinking water meets all Federal and State requirements.

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 (800) 426-4791.

Layton City routinely monitors for constituents in your drinking water in accordance with Federal and Utah State laws. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which 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, which 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, which 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, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

Where does my water come from?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, 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, and can pick up substances resulting from the presence of animals or from human activity.

Layton City's water sources include groundwater from City wells and purchased water from Weber Basin Water Conservancy District (WBWCD). You may receive a blend of both sources, depending on the time of the year and your location in the City.



Groundwater is drawn from the Delta Aquifer by the following wells: Church Street Well, Hillfield Well, Fort Lane Well, Greenleaf Well, and Shop Well. WBWCD's water includes treated surface water, which comes primarily from the Weber River and from several creeks along the Wasatch Front. WBWCD also supplements surface water sources with groundwater primarily from the Delta Aquifer. For more information on WBWCD's Water Quality Report, go to www.weberbasin.com or call 801-771-1677.

What is being done to protect my water?

Layton City Public Works & Engineering Department continues to work toward providing top quality water to every tap. The City asks 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. On November 5, 1998, Layton City passed Ordinance 98-72, effectively establishing a Drinking Water Source Protection Plan as Chapter 13.11 of the Layton City Code. The Layton City Code can be viewed at www.laytoncity.org. Additional information regarding the City's Drinking Water Source Protection Plan can be viewed at the Layton City Engineering office located at 437 N. Wasatch Drive.



The table on the following page shows the results of Layton City's monitoring for detected contaminants from the period of time from January 1st to December 31st, 2014, or the most recent sampling results within the past five years. The table also shows Weber Basin Water Conservancy District's monitoring results where applicable, because the District supplies water to Layton City each year.

In order to ensure tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Maximum Contaminant Levels (MCL's) 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 have the described health effect.

Important Health Information

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. These people should seek advice about drinking water from their health care providers. EPA/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 (800-426-4791).

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. We 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>.

LAYTON CITY WATER QUALITY TEST RESULTS

Five-year period from 2010 - 2014

Contaminant Name	Violation	Level Detected			Source	Unit	MCLG	MCL	Date of Most Recent Sample	Likely Contamination Source
		High	Low	Ave						
Microbiological Contaminants										
Total Coliform Bacteria	NO	<1.0% <1.0%			Layton City Weber Basin	N/A	0	Presence of coliform bacteria in less than 5% of monthly samples	Monthly in 2014	Naturally present in the environment
Turbidity*	NO	ND	ND	ND	Layton City	NTU	N/A	Must not exceed 5.0	2014	Soil runoff
		0.12	ND	0.04	Weber Basin			0.3 in at least 95% of samples	2014	
Radioactive Contaminants										
Gross Alpha Particles	NO	4.38 3.6	2.25 0.0	3.31 2.5	Layton City Weber Basin	pCi/L	0	15	2014 2007-2014	Erosion of natural deposits
Combined Radium	NO	0.65 1.0	0.07 0.5	0.36 0.7	Layton City Weber Basin	pCi/L	0	5	2014 2007-2014	Erosion of natural deposits
Inorganic Contaminants										
Antimony	NO	ND ND	ND ND	ND ND	Layton City Weber Basin	ppb	6	6	2013 2007-2014	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	NO	1.03 1.2	1.03 ND	1.03 0.6	Layton City Weber Basin	ppb	N/A	10	2013 2007-2014	Erosion of natural deposits; runoff from orchards; glass & electronics production wastes
Barium	NO	0.172 0.26	0.172 0.08	0.172 0.15	Layton City Weber Basin	ppm	2	2	2013 2007-2014	Discharge of drilling wastes and from metal refineries; erosion of natural deposits
Chromium	NO	3.49 ND	3.49 ND	3.49 ND	Layton City Weber Basin	ppb	100	100	2013 2007-2014	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride	NO	1.0 1.1	0.08 0.4	0.71 0.71	Layton City Weber Basin	ppm	4	4	2014 2007-2014	Water fluoridation additive; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate	NO	0.58 1.60	0.33 0.15	0.45 0.60	Layton City Weber Basin	ppm	10	10	2014 2007-2014	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Selenium	NO	ND 2.1	ND 0.60	ND 1.1	Layton City Weber Basin	ppb	50	50	2013 2007-2014	Erosion of natural deposits; discharge from mines
Sodium	NO	18.6 38.6	18.6 19.6	18.6 29.1	Layton City Weber Basin	ppm	None	None	2013 2007-2014	Erosion of natural deposits
Sulfate**	NO	28.9 48	28.9 25	28.9 38.6	Layton City Weber Basin	ppm	None	1000	2013 2007-2014	Erosion of natural deposits
Thallium	NO	ND 1.0	ND ND	ND 0.3	Layton City Weber Basin	ppb	0.5	2	2013 2007-2014	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
TDS***	NO	330 416	330 315	330 372	Layton City Weber Basin	ppm	None	2000	2013 2007-2014	Erosion of natural deposits
Lead and Copper										
Copper (a) 90% results (b) # of sites that exceed AL	NO	(a) 0.570 (b) 0			Layton City	ppm	1.3	1.3	August 2014	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead (a) 90% results (b) # of sites that exceed AL	NO	(a) 4.325 (b) 2			Layton City	ppb	0	15	August 2014	Corrosion of household plumbing systems; erosion of natural deposits
Disinfectants and Disinfection By-Products										
Chlorine	NO	1.0	ND	0.10	Layton City	ppm	MRDLG=4	MRDL=4	2014	Water additive used to control microbes
Total Trihalomethanes	NO	32.1 31.4	ND 11.2	9.9 27.6	Layton City Weber Basin	ppb	None	80	2014	By-product of drinking water chlorination
Haloacetic Acids	NO	14.1 13	ND 7.8	2.7 11.8	Layton City Weber Basin	ppb	None	60	2014	By-product of drinking water chlorination
Unregulated Contaminant Sampling (UCMR3)										
These are contaminants that some systems are required to monitor for but which EPA has not set MCLs										
Chromium (total)		0.475	ND	0.387	Layton City	ppb	None	None	2014	
Molybdenum		2.97	ND	2.59	Layton City	ppb	None	None	2014	
Strontium		273.9	134.6	186.8	Layton City	ppb	None	None	2014	
Vanadium		1.973	0.600	1.088	Layton City	ppb	None	None	2014	
Chromium-6		0.507	0.055	0.339	Layton City	ppb	None	None	2014	
Chlorate		95.0	ND	63.8	Layton City	ppb	None	None	2014	

* Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of general water quality.

** If the sulfate level of a system is greater than 500 ppm, the supplier must satisfactorily demonstrate that no better water is available and that the water shall not be available for human consumption from commercial establishments. In no case shall water having a level above 1,000 ppm be used.

*** If TDS is greater than 1,000 ppm the supplier shall demonstrate to the Utah Drinking Water Board that no better water is available. The Board shall not allow the use of an inferior source of water if a better source is available.

Layton City's drinking water meets all Federal and State requirements.

Definitions of Terms and Abbreviations

AL	<i>Action Level</i> - AL is the concentration of a contaminant, which if exceeded, triggers treatment or other requirements which a water system must follow.	MFL	<i>Million Fibers per Liter</i> - MFL is a measure of the presence of asbestos fibers that are longer than 10 micrometers.
DATE	Because of required sampling time frames i.e. yearly, 3 years, 4 years or 6 years, sampling dates may seem out of date. The date shown in the table is the most recent sample for the samples included in the detected range.	ND	<i>Non-Detect</i> - NO indicates that a laboratory analysis showed no presence of the constituent.
HIGH & LOW	For water systems that have multiple sources of water, the Utah Division of Drinking Water has given water systems the option of listing test results of the constituents in one table, instead of multiple tables. Thus, the lowest and highest values detected in multiple sources are recorded in the same space in the report table.	NTU	<i>Nephelometric Turbidity Unit</i> - NTUs are a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
MCL	<i>Maximum Contaminant Level</i> - The MCL is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as possible using the best available treatment technology.	pCi/L	<i>Picocuries per liter</i> - pCi/L is a measure of the radioactivity in water.
MCLG	<i>Maximum Contaminant Level Goal</i> - The 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.	ppm	<i>Parts per million or milligrams per liter</i> - One part per million corresponds to one minute in two years or a single penny in \$10,000.
MRDLG	<i>Maximum Residual Disinfectant Level Goal</i> —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.	ppb	<i>Parts per billion or micrograms per liter</i> - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
		ppt	<i>Parts per trillion or nanograms per liter</i> - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.
		TT	<i>Treatment Technique</i> - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
		MRDL	<i>Maximum Residual Disinfectant Level</i> —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.

Additional Monitoring Information

Radon

Radon is a radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. 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. For additional information, call your state radon program or call EPA's Radon Hotline (800-SOS-RADON).

Unregulated Contaminants

Unregulated contaminants are those for which the Environmental Protection Agency (EPA) has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is required. In

2014 Layton City sampled for the UCMR3 contaminants as required by the UCMR3 Rule. The results of the UCMR3 are included in the results table for each contaminant above the MRLs (minimum reporting level) for each contaminant. For further information on the UCMR 3 Rule contaminants, contact the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791 or visit the EPA website at www.epa.gov/safewater.

Cryptosporidium & Giardia

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 their source water. Current test methods do not

allow us to determine if the organisms are dead or if they are capable of causing disease. Due to these results, Weber Basin does use UV light in 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. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

Every Drop Counts!

PLEASE CONTINUE TO DO YOUR PART IN CONSERVING WATER

Why Should I Conserve Water?

In simple terms, Utah's semi-arid terrain is sprouting another city approximately the size of Salt Lake City about every five years. The Governor's Office of Planning and Budget predicts that the population of Utah will double to nearly 5 million by the year 2050. Utah has earned a spot as one of the fastest growing states in the nation. Unfortunately, it is also the second driest state in the nation.

As Utah's population blossoms, so will the demand for Utah's limited water resources. If Utah's municipal and industrial water demand increase at the same rate as its population growth, the State is headed for trouble. Very simply, there will not be enough water to supply to this population. However, since Utahns currently use more water than they need, particularly in watering their landscapes, the opportunity exists to avoid many of these problems by reducing use to a more efficient level.

Visit the following websites for more information: <http://www.slowtheflow.org>, <http://www.conservewater.utah.gov>, and <http://www.conservationgardenpark.org>.

How Can I Help?

The American Water Works Association estimates that between 59 to 67 percent of water use in residential areas is outdoors. This clearly represents the area of the greatest potential water savings. **Therefore, we offer these suggestions to conserve water outdoors:**

- Water your lawn no more than twice a week. Your lawn will get accustomed to reduced watering.
- Water after 6 p.m. or before 10 a.m. to avoid evaporation.
- Keep sprinklers from watering pavement. Position them so that water lands on the lawn and shrubs.
- Cycle your watering so most of the water gets into the soil. High clay-content soils absorb water very slowly, so it is necessary to apply no more water than the ground can absorb. Over-watering does not help your lawn.
- Remember to turn off your sprinklers during rain and reset your automatic sprinkler system as the season changes to eliminate unnecessary watering. Homes with automatic sprinklers use up to 50 percent more water than manually operated systems.
- Treat brown spots in the lawn with the hose instead of running the entire sprinkler system.
- Use drip or soaker-type irrigation for all plantings except turf.
- Aerate your lawn. This increases water infiltration into the soil, allowing more water to get to the root zone. Aerating also adds air to the soil, which aids plant growth.
- Avoid over-fertilizing. Fertilizer increases the need for water.
- Set lawnmower blades to cut grass at about 3 inches. Mowing grass shorter dries out the soil faster and increases water use.
- Use 2—3 inches of mulch in flowerbeds to maintain soil moisture and reduce watering requirements.
- Leave grass clippings on your lawn. This will reduce evaporation and add organic matter to the soil, allowing it to retain more water.
- Sweep sidewalks and driveways instead of using a hose.
- Use a commercial car wash or a bucket of water instead of the hose when washing your car.
- Always use a hose nozzle instead of an open-end hose.
- Install efficient irrigation systems such as drip irrigation or soaker hoses.
- Use sprinklers that emit large drops of water to reduce evaporation and wind over-spray.
- Encourage others to do their part. Talk to friends, neighbors and co-workers about your efforts to conserve water and encourage them to do the same.



Cross-Connection Program Public Awareness

Layton City continually strives to reduce the risk of contamination of our culinary water supply. One of the greatest public health risks lies in the possibility of introducing a contaminant into the public water supply. Common causes of culinary water contamination stem from backflow and cross-connections.

Backflow: Reversal of flow in a piping system causing substances other than culinary water to flow back into the culinary water system.

Cross-connection: Any actual or potential connection between a culinary water system and any other source or system through which it is possible to introduce into the public drinking water system any used water, industrial fluid, gas or substance other than the intended culinary water.

How to Prevent Cross-Connections:

Do not allow hoses to be submerged in buckets, animal watering troughs, utility sinks, or swimming pools which can result in siphoning contaminated water back into your culinary water pipes.

Avoid using a spray attachment on the end of a hose to apply pesticides, and never use hoses connected to water lines to unplug backed up sewer lines

Avoid culinary and secondary water cross-connections which create a health hazard due to the existence of **contaminants** in the untreated secondary water.

- **If your outdoor sprinkler system uses the culinary water supply, you must have a back-flow prevention device installed.** Contact the Public Works Shop at 801-336-3720 for assistance determining if your system has a properly installed backflow prevention device.
- **If your outdoor sprinkler system runs on secondary water AND has the option to switch to culinary water when needed, you are most likely at risk for cross-contamination into your home.** Your sprinkler system must have a back-flow prevention device at the connection to the culinary water supply. Contact the Public Works Shop at 801-336-3720 for assistance in determining if your home is at risk with this type of system, or if you have any other questions about hazard assessment, compliance, or acceptable assemblies.



- **If you are installing a new outdoor sprinkler system:**

Step 1: Visit the Layton City Building Department at 437 North Wasatch Drive and obtain instructions and resources for properly installing an irrigation system.

Step 2: Obtain a Layton City sprinkler installation permit (\$30.00).

Step 3: Call your water supplier to verify pressure – (If connecting to culinary, call your culinary water supplier. If connecting to secondary water, call your secondary water supplier.) Your outdoor landscaping sprinkler system should be set up to handle an average of 40 psi water pressure.

Step 4: Hire a licensed professional, or if installing the system yourself, seek advice from a company dedicated to selling plumbing or sprinkling system parts and equipment.

Step 5: Call Layton City Public Works at (801) 336-3720 to schedule an inspection to confirm the installation has been done properly to prevent backflow and cross-connections.



Layton City's Cross Connection Control Program helps to prevent contamination of the public water supply. Section 13.06 of the Layton City Municipal Code outlines this effort. The Uniform Plumbing Code and the Utah Public Drinking Water Rules require that all cross-connections be eliminated or protected against backflow by installing an approved backflow prevention device.

The objective of the Cross Connection Control Program is to reduce the risk of contamination by evaluating and eliminating potential health or system hazards commonly found in the community. The strategy that Layton City uses is called "containment strategy," which contains each individual service connection with a backflow device. Layton City's program is divided into the following two areas:

1. Residential (service lines smaller than 1 1/4.):

These types of service connections are generally considered low hazard and adequate backflow protection is normally provided by a dual check valve installed at the meter. However, a separate backflow preventer is required on all landscape sprinkler systems using culinary water. The consumer has the responsibility of preventing pollutants and contaminants from entering the public water supply. The consumer's responsibility starts at the point of delivery from the public water system and includes all of the consumer's private system.

2. Commercial (service lines larger than 1 1/4.):

These types of service connections pose varying degrees of hazard to the public water system. The type of backflow assembly required depends on the type of hazard. A hazard assessment performed by the City can determine the required type of assembly. It is the business owner's responsibility to purchase the backflow assembly and hire a licensed plumber to install it at the water service entrance. Within ten days of being placed into service, the assembly must be tested by a certified backflow technician and a test report must be sent to the City. This test and report must be updated annually.

Want to get involved?

The City holds regularly scheduled City Council meetings on the first and third Thursday of each month at 7:00 p.m., excluding holidays. The meeting is held in the City Center Council Chambers, located at 437 N. Wasatch Drive in Layton. The public is always welcome to attend.

Questions? Suggestions? If you have any questions about this report or about your water, please contact

James "Woody" Woodruff, Layton City Engineer, Stephen Jackson, Water Engineer,
or Wes Adams, Water Supervisor, at the Public Works Engineering Office at 801-336-3700.

You may also email sjackson@laytoncity.org.

