2011 WATER QUALITY REPORT

Layton City is pleased to present you with the 2011 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.

Layton City routinely monitors for constituents in your drinking water in accordance with Federal and Utah State laws. All drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. Those contaminants types can include microbial (viruses and bacteria), inorganic (salts and metals), organic (byproducts of industrial processes or petroleum products), pesticides, herbicides, or radioactive materials. 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.

PWS ID UTAH06018

Where does my water come from?

Layton City's water sources include groundwater from City wells and purchased water from Weber Basin Water Conservancy District. 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	Sandridge Well #2 (inactive during 2011)
Greenleaf Well	Shop Well

The City also purchases water from Weber Basin Water Conservancy District (WBWCD). 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, 2011, 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 lesson the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

LAYTON CITY WATER QUALITY TEST RESULTS

Five-year period from 2007 - 2011

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 2011	Naturally present in the environment
Turbidity*	**NO**	2.00 0.12	ND ND	1.04 0.05	Layton City Weber Basin	NTU	N/A	0.3 in at least 95% of samples & must not exceed 5.0	2007-2011	Soil runoff
Radioactive Contaminants										
Gross Alpha Particles	**NO**	5.2 3.6	0.90 0.80	2.83 2.70	Layton City Weber Basin	pCi/L	0	15	2007-2011	Erosion of natural deposits
Combined Radium	**NO**	0.7 1.0	0.2 0.6	0.4 0.7	Layton City Weber Basin	pCi/L	0	5	2007-2011	Erosion of natural deposits
Inorganic Contaminants										
Antimony	**NO**	ND 0.6	ND ND	ND 0.6	Layton City Weber Basin	ppb	6	6	2007-2011	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	**NO**	1.01 1.2	ND ND	0.34 0.6	Layton City Weber Basin	ppb	N/A	10	2007-2011	Erosion of natural deposits; runoff from orchards; glass & electronics production wastes
Barium	**NO**	0.14 0.26	ND 0.08	0.05 0.15	Layton City Weber Basin	ppm	2	2	2007-2011	Discharge of drilling wastes and from metal refineries; erosion of natural deposits
Chromium	**NO**	10.80 ND	ND ND	5.75 ND	Layton City Weber Basin	ppb	100	100	2007-2011	Discharge from steel and pulp mills; erosion of natural deposits
Copper (a) 90% results (b) # of sites that exceed AL	**NO**	(a) 465.38 (b) 0			Layton City	ppb	1300	1300	August 2011	Corrosion of household plumbing systems; erosion of natural deposits
Fluoride	**NO**	0.84 1.1	0.61 0.50	0.70 0.71	Layton City Weber Basin	ppm	4	4	2007-2011	Water fluoridation additive; erosion of natural deposits; discharge from fertilizer and aluminum factories
Lead (a) 90% results (b) # of sites that exceed AL	**NO**	(a) 2.387 (b) 1			Layton City	ppb	0	15	August 2011	Corrosion of household plumbing systems; erosion of natural deposits
Nitrate	**NO**	1.16 1.60	0.18 0.10	0.68 0.50	Layton City Weber Basin	ppm	10	10	2007-2011	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Selenium	**NO**	1.02 2.1	ND 0.60	0.34 1.1	Layton City Weber Basin	ppb	50	50	2007-2011	Erosion of natural deposits; discharge from mines
Sodium	**NO**	26.0 38.6	16.0 19.6	18.4 29.1	Layton City Weber Basin	ppm	None	None	2007-2011	Erosion of natural deposits
Sulfate**	**NO**	24.30 48	6.44 25	13.52 38.7	Layton City Weber Basin	ppm	None	1000	2007-2011	Erosion of natural deposits
Thallium	**NO**	ND 1.0	ND ND	ND 0.6	Layton City Weber Basin	ppb	0.5	2	2007-2011	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
TDS***	**NO**	318.0 416	315 315	225.3 372	Layton City Weber Basin	ppm	None	2000	2007-2011	Erosion of natural deposits
Organic Contaminants (Regulated)										
Total Trihalomethanes	**NO**	50.4 36.5	ND 21.1	13.2 27.6	Layton City Weber Basin	ppb	None	80	2007-2011	By-product of drinking water chlorination
Haloacetic Acids	**NO**	20.6 27.7	ND 16.5	5.3 25.2	Layton City Weber Basin	ppb	None	60	2007-2011	By-product of drinking water chlorination

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

** 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 soucre 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 *Action Level* - AL is 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 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.

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 on 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.

MCL *Maximum Contaminant Level*- 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.

MCLG *Maximum Contaminant Level Goal* - 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.

MFL *Million Fibers per Liter* - MFL is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

ND *Non-Detect* - NO indicates that a laboratory analysis showed no presence of the constituent.

NTU *Nephelometric Turbidity Unit* - NTUs are a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L *Picocuries per liter* - pCi/L is a measure of the radioactivity in water.

ppm *Parts per million* or *milligrams per liter*- One part per million corresponds to one minute in two years or a single penny in $10,000.

ppb *Parts per billion* or *micrograms per liter*- One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

ppt *Parts per trillion* or *nanograms per liter* - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.

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

Additional Monitoring Information

Radon

At this time, radon monitoring in drinking water is not required by the EPA. However, the EPA is considering making radon monitoring a requirement. Radon is a radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. It can also get into the indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. (You should pursue radon removal for your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call Utah's radon program or the EPA's Radon Hotline (1-800-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 2010 Layton City sampled for the UCMR 2 contaminants as required by List 1 of the UCMR 2 Rule. The results indicated that the measured amounts of each contaminant were below the MRLs (minimum reporting level) for each contaminant. For further information on the UCMR 2 Rule or List 1 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% 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. 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 have more difficulty and are at greater risk of developing severe, life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested for it to cause disease, and it may be spread through means other than drinking water. Weber Basin continues an aggressive sampling program to help identify possible sources and minimize the effects to the water quality.

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.

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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.

Cross-Control Program Public Awareness

One of the greatest public health risks lies in the possibility of introducing a contaminant into the public water supply. The risk is especially troubling because the water distribution system can provide a conduit for the quick spread of the contaminant to a large population. A cross connection is any physical connection to the City water system that may allow contaminants to come in contact with drinking water. Layton City continually strives to reduce the risk of contamination of our potable water supply. Section 13.06 of the Layton City Municipal Code outlines this effort.

The objective of the cross connection 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 at the meter with a backflow valve. 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. For residential construction newer than November 1991, the backflow device has been installed at the meter by the developer's contractor. For residential connections older than November 1991, the backflow device shall be installed at the meter by Layton City through an ongoing program.

2. **Commercial** (service lines larger than 1 1/4."):
These types of service connections pose varying degrees of risk to the public water system. The type of backflow assembly required depends on the type of business. 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 initial installation, 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.

Finally, if you have an outdoor sprinkler system that 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. 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.

Valley View Golf Course, Layton Utah

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 Greg Harrah, Water Supervisor, at the Public Works Engineering Office at 801-336-3700. You may also email sjackson@laytoncity.org.