

## Annual Drinking Water Quality Report Herriman City Municipal Water 2006

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 source comes from a variety of sources from treated water to deep underground wells. The Source of treated water is mainly Deer Creek Reservoir but also several smaller streams from the Wasatch Front. The groundwater comes from several wells and natural springs within our system. The wells operate at a variety of times, to help with peak demands of water during the year.

The Drinking Water Source Protection Plan for Herriman City Municipal Water is available for your review. It contains information about source protection zones, potential contamination sources and management strategies to protect our drinking water. Potential contamination sources common in our protection areas are leaking underground storage tanks, commercial and residential herbicides, pesticides and fertilizers, agricultural run-off and storm water run-off. Our source(s) have a low susceptibility to potential contamination. We have also developed management strategies to further protect our sources from contamination. Please contact John Stillman or Danette Markus 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.

Herriman City Municipal Water is pleased to report that our drinking water meets federal and state requirements.

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 John Stillman 801-446-5323. 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 1<sup>st</sup> and 3<sup>rd</sup> Thursday of the month at 7:00 P.M. at the Herriman City Offices located at

13011 S Pioneer Street (6000 W), Herriman.

Herriman City Municipal Water 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 1<sup>st</sup> to December 31<sup>st</sup>, 2006. 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.

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

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

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

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	Viol. Y/N	Level Detected ND/Low-High	Unit Meas.	MCLG	MCL	Date Samp.	Likely Source of Contamination
Microbiological Contaminants							
Turbidity for (Surface Water) and (Ground Water)	N	.02-.22	NTU	N/A	0.5 in at least 95% of the samples and must never exceed 5.0	2006	Soil Runoff (highest single measurement & the lowest monthly percentage of samples meeting the turbidity limits)
Radioactive Contaminants							
Alpha emitters	N	ND-9	pCi/l	0	15	2006	Erosion of natural deposits
Combined radium	N	ND-1.2	pCi/l	0	5	2006	Erosion of natural deposits
Gross Beta	N	ND-6	pCi/l	0	50	2006	Erosion of natural deposits
Inorganic Contaminants							
Arsenic	N	ND-2700	ppt	0	10000	2006	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	N	60-224	ppb	2000	2000	2006	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits

Carbon, Total Organic (TOC)	N	1.1-2.5	ppm	NA	TT	2006	Naturally present in the environment
Chromium	N	ND-8	ppb	100	100	2006	Discharge from steel and pulp mills; erosion of natural deposits
Copper a. 90% results b. # of sites that exceed the AL	N	a.470 b.0	ppb	1300	AL=1300	2006	Corrosion of household plumbing systems; erosion of natural deposits
Fluoride	N	100-1300	ppb	4000	4000	2006	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 b.0	ppb	0	AL=15	2006	Corrosion of household plumbing systems, erosion of natural deposits
Mercury (inorganic)	N	ND-200	ppt	2000	2000	2006	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen)	N	250-3500	ppb	10000	10000	2006	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	N	ND-7	ppb	50	50	2006	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium	N	ND-61	ppm	None set by EPA	None set by EPA	2006	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills.
Sulfate	N	16-86	ppm	1000	1000	2006	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills, runoff from cropland
TDS (Total Dissolved solids)	N	184-928	ppm	2000	2000	2006	Erosion of natural deposits
Disinfection Bi-products							
TTHM [Total trihalomethanes]	N	ND-55	ppb	0	100	2006	By-product of drinking water disinfection
Haloacetic Acids	N	ND-71	ppb	60	n/a	2006	By-product of drinking water disinfection

### Microbiological Contaminants:

Turbidity. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms

such as nausea, cramps, diarrhea, and associated headaches.

### **Radioactive Contaminants:**

**Alpha emitters.** Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

**Beta emitters.** Certain minerals are radioactive and may emit a form of radiation known as beta radiation. Some people who drink water containing beta emitters in excess of the MCL over many years may have an increased risk of getting cancer.

**Combined Radium 226/228.** Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

### **Inorganic Contaminants:**

**Arsenic.** Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

**Barium.** Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

**Carbon, Total Organic (TOC).** Carbon, Total Organic (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection by products. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

**Chromium.** Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.

**Copper.** Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

**Fluoride.** Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

**Lead.** Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

**Mercury (inorganic).** Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.

**Nitrate.** Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

**Selenium.** Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.

**Sodium.** Sodium is an essential nutrient. However, some people who drink water containing sodium in excess of the MCL may experience health problems.

**Sulfate.** High levels of sulfates in the drinking water may cause some people to have stomach problems.

TDS (Total Dissolved Solids). TDS is an aesthetic water quality problem, however high levels may cause some people to experience health problems.  
TTHMs [Total Trihalomethanes]. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer

As you can see by the table, our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels.

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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

We at Herriman City Municipal Water 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.