



Water testing performed in 2009

Presented By:
CITY OF PAMPA

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Maintaining High Standards

Once again we are proud to present our annual water quality report. This report covers all testing performed between January 1, 2009, and December 31, 2009. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.

Important Health Information

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Community Participation

The Water Department is part of the Pampa City Government. Our city commission meets at City Hall every second and fourth Tuesday of the month. On July 13 at 4 p.m. during the regular commission meeting, this consumer confidence report will be discussed. Please feel free to participate in this meeting to find out more about your drinking water. For information on city commission meetings, call City Hall at (806) 669-5750.

Where Does My Water Come From?

The City of Pampa water customers are fortunate because we enjoy an abundant water supply from both surface water and ground water sources. Surface water is obtained from Lake Meredith, and ground water is obtained from the Ogallala Aquifer in Roberts County and from the City of Pampa wells located south of the city.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test each backflow preventer to make sure that it is providing maximum protection.

For more information, review the Cross-Connection Control Manual from the U.S. EPA's Web site at www.epa.gov/safewater/crossconnection.html. You can also call the Safe Drinking Water Hotline at (800) 426-4791.

Source Water Susceptibility Assessment

The Texas Commission on Environmental Quality (TCEQ) has completed a Source Water Susceptibility Assessment for your drinking water source. This report describes the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information contained in this assessment will allow us to focus our source water protection activities.

Results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for your water system are based on this susceptibility and on previous sample data. Any detection of these contaminants will be found in this consumer confidence report. For more information on source water assessments and protection efforts at our system, contact Gary Turley at (806) 669-5830.

Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.

Turn off the tap when brushing your teeth.

Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.

Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.

Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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 can acquire naturally occurring minerals, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and which may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor, or color of drinking water, please contact our business office. For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Lead and Drinking Water

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. The City of Pampa Water Department 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 www.epa.gov/safewater/lead.

Cryptosporidium in Drinking Water

Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Current test methods do not allow us to determine if the organisms are alive or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. We encourage immunocompromised 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.

Test results indicated that there was NO DETECTION of *Cryptosporidium* on the RAW water samples collected for 2008.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at www.nrdc.org/water/drinking/bw/exesum.asp.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2005	15	0	5.25	5.1–5.4	No	Erosion of natural deposits
Barium (ppm)	2006	2	2	0.146	0.146–0.146	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters ¹ (pCi/L)	2005	50	0	7.15	6.3–8	No	Decay of natural and man-made deposits
Chlorine (ppm)	2009	[4]	[4]	2.15	0.91–3.7	No	Disinfectant used to control microbes
Chromium (ppb)	2006	100	100	3.9	3.9–3.9	No	Discharge from steel and pulp mills; Erosion of natural deposits
Combined Radium (pCi/L)	2005	5	0	0.05	ND–0.1	No	Erosion of natural deposits
Fluoride (ppm)	2008	4	4	0.82	0.71–1.04	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2009	60	NA	6	ND–15.8	No	By-product of drinking water disinfection
Nitrate (ppm)	2009	10	10	1.51	1.4–1.67	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon [TOC]–Drinking Water (ppm)	2009	TT	NA	1.49	ND–2.70	No	Naturally present in the environment
Total Organic Carbon [TOC]–Source Water (ppm)	2009	TT	NA	2.15	ND–3.32	No	Naturally present in the environment
TTHMs [Total Trihalomethanes] (ppb)	2009	80	NA	17.9	ND–36.7	No	By-product of drinking water chlorination
Turbidity ² (NTU)	2009	TT=0.3	NA	0.26	0.01–0.26	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2009	TT	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2007	1.3	1.3	0.143	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2007	15	0	2.2	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2008	300	NA	144	54–258	No	Abundant naturally occurring element; Used in water purification; By-product of oil field activity
Copper (ppm)	2006	1.0	NA	0.016	0.016–0.016	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Iron (ppm)	2006	0.3	NA	0.071	0.071–0.071	No	Erosion of natural deposits; Iron or steel water delivery equipment or facilities
Manganese (ppm)	2006	0.05	NA	0.0015	0.0015–0.0015	No	Abundant naturally occurring element
pH (Units)	2009	6.5–8.5	NA	7.4	7.1–7.7	No	Measure of corrosivity of water
Sulfate (ppm)	2008	300	NA	132	31–267	No	Naturally occurring; Common industrial by-product; By-product of oil field activity
Total Dissolved Solids [TDS] (ppm)	2008	1,000	NA	628	325–1,000	No	Total dissolved mineral constituents in water
Zinc (ppm)	2006	5	NA	0.017	0.017–0.017	No	Moderately abundant naturally occurring element; Used in the metal industry

UNREGULATED AND OTHER SUBSTANCES³

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bicarbonate (ppm)	2008	186	178–200	Corrosion of carbonate rocks such as limestone
Bromodichloromethane (ppb)	2009	9.2	2.4–16	By-product of drinking water disinfection
Bromoform (ppb)	2009	2.4	2.4–2.4	By-product of drinking water disinfection
Calcium (ppm)	2006	49.7	49.7–49.7	Abundant naturally occurring element
Chloroform (ppb)	2009	5.35	1.2–9.5	By-product of drinking water disinfection
Dibromochloromethane (ppb)	2009	9.6	3.2–16	By-product of drinking water disinfection
Haloacetic Acids [HAA]–IDSE Results (ppb)	2008	14.9	ND–30.2	By-product of drinking water disinfection
Hardness as Ca/Mg (ppm)	2008	282	209–386	Naturally occurring calcium and magnesium
Lead (ppm)	2006	0.001	0.001–0.001	Corrosion of household plumbing systems; Erosion of natural deposits
Magnesium (ppm)	2006	20.7	20.7–20.7	Abundant naturally occurring element
Nickel (ppm)	2006	0.002	0.002–0.002	Erosion of natural deposits
Sodium (ppm)	2006	47	47–47	Erosion of natural deposits; By-product of oil field activity
Total Alkalinity as CaCO₃ (ppm)	2008	186	178–200	Naturally occurring soluble mineral salts
TTHMs [Total Trihalomethanes]–IDSE Results (ppb)	2008	25.4	ND–54.4	By-product of drinking water disinfection

¹The MCL for beta particles is 4 mrem/year. The U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

²Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

³Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Any unregulated contaminants detected are reported in the following table. For additional information and data visit www.epa.gov/safewater/ucmr/ucmr2/index.html, or call the Safe Drinking Water Hotline at (800) 426-4791.

Definitions

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

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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