Annual WATER QUALITY REPORT

Reporting Year 2012

Presented By
City of Mission

PWS ID#: TX1080008

Este informe incluye informacion importante sobre el agua potable. Si tiene preguntas o comentarios sobre este informe en espanol, favor de llamar at tel. (956) 580-8780 para hablar con una persona bilingue en espanol.

There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2012. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We will meet Wednesday, July 17, 2013, at 6:00 p.m., at the Public Works Building located at 2801 North Holland.

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 Safe Drinking Water Hotline at (800) 426-4791.

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 in Home Plumbing

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. This water supply 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.

Where Does My Water Come From?

The City of Mission, Water Systems, consists of two water treatment plants: the South Water Treatment Plant (8.0 mgd) and the North Water Treatment Plant (17.5 mgd). Our raw water source is the Rio Grande River, and the raw water is delivered from the river to the reservoirs via irrigation canals. Combined, our water treatment facilities can treat and purify 25.5 million gallons per day of clean drinking water.

Information on the Internet

The U.S. EPA Office of Water (www.epa.gov/watrhome) and the Centers for Disease Control and Prevention (www.cdc.gov) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health. Also, the TCEQ has a Web site (www.tceq.com) that provides complete and current information on water issues in Texas, including valuable information about our watershed.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Miguel (Mike) Garcia, Water Treatment Plant Supervisor, at (956) 580-8780.

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.

How Is My Water Treated and Purified?

The treatment process consists of a series of steps. First, raw water is drawn from our water source and sent to the reservoir, where copper sulfate (algae control) is added. Gravity then causes the raw water to flow to the water pump intake, where we add powdered activated carbon (taste and odor control). Then the water is pumped to the water treatment plant. The water then goes to a rapid mixer where aluminum sulfate and polymer are added. Chlorine dioxide is added for disinfection. The addition of these substances causes small particles to adhere to one another (called floc), making them heavy enough to settle into a basin from which sediment is removed. At this point, the water is filtered through layers of anthracite coal and sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges. Chlorine and ammonium sulfate are added as a precaution against any bacteria that may still be present. (We carefully monitor the amount of chlorine added, adding the smallest quantity necessary to protect the safety of your water without compromising aesthetics.) Finally, polyphosphate, a corrosion inhibitor (added to protect distribution system pipes) is added before the water is pumped to sanitized underground reservoirs, water towers, and into your home or business.

Water Conservation and Drought Contingency Plan

The City of Mission implemented a Water Conservation and Drought Contingency Plan to manage and provide an adequate water supply to meet the future needs of our customers. The purpose of this plan is to establish procedures to identity, classify, and manage an effective and efficient water supply during high demand or a water-shortage emergency. Excessive demand on the water treatment plants and/or continually falling treated-water reservoir levels, which do not refill overnight to a specified level, will trigger four (4) stages of the water conservation plan. These stages range from Stage 1 (voluntary stage) to Stage 5 (water rationing). Utility customers in the City of Mission are in a voluntary water conservation Stage 1 at the time this report is published, and are encouraged to limit their daily water usage by using good management practices for water conservation. Utility customers will be notified prior to a stage level change. At such time, customers may incur a surcharge fee based on individual customers' water-usage history for Stages 3, 4, and 5. Fines that may exceed $400.00 may be imposed for any violations of any stage of the water conservation plan, and depending on the severity of the violation, the customer's water service may be terminated.

Tips to Prevent Storm Water Pollution

1. Remember to turn off your sprinklers when it rains to avoid water runoff; during winter, runoff can freeze, causing slippery conditions.
2. Bag your pets' waste, don't just leave it there. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drains and eventually into local water bodies.
3. Don't apply pesticides, fertilizers, or herbicides before it rains. Contrary to popular belief, the rain won't help to soak these chemicals into the ground; it will only help create polluted runoff into our local creeks.
4. Select native and adapted plants and grasses that are drought and pest resistant. Native plants require less water, fertilizers, and pesticides. Learn more about native and adapted plants at www.txsmartscape.com.
5. Reduce the amount of paved area and increase the amount of vegetated area in your yard.
6. If you change your car's oil, don't dump it on the ground or in the storm drain. Dispose of it properly at an oil-recycling center.
7. Check your car, boat, or motorcycle for leaks. Clean up spilled fluids with an absorbent material; don't rinse the spills into the storm drains.
8. Don't get rid of grass clippings and other yard waste by dumping it or sweeping it into the storm drain; this will deplete the oxygen for aquatic life. Instead, compost your yard waste.
9. When washing your car at home, wash with only water or use biodegradable soap and wash it on a lawn or other unpaved surface. Better yet, take your car to a professional car wash.
10. Don't get rid of old or unused paint by throwing it down the storm drain; dispose of paint and other household hazardous waste at recycling facilities.
11. Don't pump your pool water into the storm drain; pool chemicals can be hazardous to our creeks' habitats. Whenever possible, drain your pool into the sanitary sewer system where the water can be treated.
12. Don't Mess with Texas! Throw litter away in a garbage can, not out your window. Recycle what you can!

Fixtures with Green Stains

A green or blue-green stain on kitchen or bathroom fixtures is caused by tiny amounts of copper that dissolve in your home's copper plumbing system when the water sits unused overnight. Copper staining may be the result of a leaky faucet or a faulty toilet flush valve, so be sure your plumbing is in good working order.

Copper stains may also be caused by overly hot tap water. Generally speaking, you should maintain your water temperature at a maximum of 120 degrees Fahrenheit. You should consult the owner's manual for your heater or check with your plumber to determine your current heat setting. Lowering your water temperature will reduce the staining problem and save you money on your energy bill.

Also keep in mind that a tap that is used often throughout the day usually will not produce copper stains, so if you flush the tap for a minute or so before using the water for cooking or drinking, copper levels will be reduced.

What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses about 100 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet; twice the global per capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish.

To check out your own water footprint, go to www.h2oconserve.org, or visit www.waterfootprint.org to see how the water footprints of other nations compare.

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 allows 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
Chloramines (ppm)	2012	[4]	[4]	1.92	1.80–2.08	No	Water additive used to control microbes.
Fluoride (ppm)	2012	4	4	0.445	0.44–0.45	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Haloacetic Acid (HAAs) (ppb)	2012	60	NA	20.2	17.3–24.1	No	By-product of drinking water disinfection.
Nitrate (ppm)	2012	10	10	0.125	0.11–0.14	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium (ppm)	2011	0.05	0.05	0.0	0.0–0.0	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Total Trihalomethanes (TTHMs) (ppb)	2012	80	NA	65.1	58.4–74.4	No	By-product of drinking water disinfection.
Turbidity[1] (NTU)	2012	TT=1 NTU	NA	0.22	0.10–0.22	No	Soil runoff.
Turbidity (Lowest monthly percent of samples meeting limit)	2012	TT=95% of samples<0.3 NTU	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/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2010	1.3	1.3	0.07	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead (ppb)	2010	15	15	0.0	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits.

[1] Turbidity 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.

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.

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.

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.