



Annual
WaterQuality
Report

Water Testing Performed in 2010



Presented By
City of The Colony

PWS ID#: TX0610081

Quality First Quality

Once again we are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2010. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us to continue providing you and your family with high-quality drinking water.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions or concerns, we are always available to assist you.

Community Participation

The public is invited to participate at the next meeting. Date: 7/5/2010 Time: 6:00 p.m. Location: One Harris Plaza, The Colony, Texas. Phone (972) 625-4471



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 or on the Web at <http://water.epa.gov/drink/hotline>.

Where Do We Get Our Drinking Water?

The City of The Colony owns and operates 4 wells (ground water), 3 of which are on the Trinity Sands Aquifer and 1 on the Paluxy Aquifer. The Colony also purchases up to 6 million gallons of water a day from the City of Dallas. Dallas uses surface (lake) water from seven sources: the Elm Fork of the Trinity River and lakes Ray Roberts, Lewisville, Grapevine, Ray Hubbard and Tawakoni and Fork.

Austin Ranch Customers receive water from The City of Plano. Plano purchases water from North Texas Municipal Water District (NTMWD). NTMWD utilizes three reservoirs for its raw water supplies (lake): Lavon Lake, Lake Jim Chapman and Lake Texoma.

The NTMWD prides itself in producing and delivering water to your tap meeting stringent state and federal standards. Ensuring water quality, NTMWD utilizes up-to-date technology and a five barrier treatment process to ensure that the potable water supply meets and/or exceeds all Safe Drinking Water Standards.

Impact of Zebra Mussels

The zebra mussel is a small mussel native to Russia. In 1988, it reached North America by a transatlantic freighter. Since then, they have continued to spread throughout the country. Zebra mussels are very successful invaders because they live and feed in many different aquatic habitats and breed prolifically (each female produces 1 million eggs per year) for their entire five-year lifespan.

Adult zebra mussels colonize on living and nonliving surfaces, including boats, buoys, piers, plants, and clams. They are a great concern to drinking water utilities because they can attach to water intake pipes, severely restricting the flow of fresh water. They can also impact water quality by increasing taste-and-odor problems in the water supply.

Zebra mussels are almost impossible to eradicate once they become established. Water utilities have had to retool their water intake systems to prevent zebra-mussel-related problems costing millions of dollars a year. Utilities rely on a variety of methods to remove mussels from intake pipes; since there is no single, ideal removal solution, new methods are constantly under investigation.

While complete removal may be impossible, preventing zebra mussel spread is not. Human activities have spread them into many inland lakes and streams, usually through recreational boating, fishing, and diving practices. Simple steps such as draining live wells, cleaning vegetation off boat trailers, removing attached zebra mussels from boat hulls, and not dumping bait into lakes or rivers can prevent the spread of zebra mussels into noninfested waters.

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 dead 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, 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.

During 2008, Dallas continued monthly testing for *cryptosporidium* in both untreated and treated water. DWU began monitoring for *cryptosporidium* in 1993. It has been found only in untreated water supply. *Cryptosporidium* has not been found in Dallas treated drinking water. To protect your drinking water, Dallas works to protect the watershed from contamination and optimizes the treatment process.

Questions?

For more information about this report, or for any questions relating to your drinking water, please contact Jimmy Arthur, Water Production Department Supervisor, at (972) 625-4471.

Fact OR Fiction

There is the same amount of water on Earth now as there was when the Earth was formed. *(Fact: The water that comes from your faucet could contain molecules that dinosaurs drank!)*

About half the water treated by public water systems is used for drinking and cooking. *(Fiction: Actually, the amount used for cooking and drinking is less than 1 percent of the total water produced!)*

A person can live about a month without food, but only about a week without water. *(Fact: Dehydration symptoms generally become noticeable after only 2 percent of one's normal water volume has been lost.)*

The first water pipes in the United States were made of cast iron. *(Fiction: The first water pipes were actually made of fire-charred bored logs.)*

The world's first municipal water filtration plant was opened in the United States. *(Fiction: The first plant was actually opened in Paisley, Scotland, in 1832.)*

A person must consume a half-gallon of water daily to live healthily. *(Fact: A person should drink at least 64 ounces, or 8 cups, of water each day.)*

One gallon of gasoline poured into a lake can contaminate approximately 750,000 gallons of water. *(Fact)*

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 The Colony Water Utilities 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.

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 the Water Production Department at 972-625-4471. For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

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 tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often 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]	The Colony Water Utility		Dallas Water Utility		Plano Water Utilities		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Arsenic (ppb)	2009	10	0	1.51	NA	2.5 ¹	2.3–2.7 ¹	NA	NA	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Atrazine (ppb)	2010	3	3	NA	NA	0.20	0.17–0.22	<0.1	<0.1–0.24	No	Runoff from herbicide used on row crops
Barium (ppm)	2009	2	2	0.0736	NA	0.021 ¹	0.018–0.023 ¹	0.04 ¹	0.03–0.08 ¹	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters ² (pCi/L)	2005	50	0	4 ³	NA	5.4	4.4–6.4	4.4 ¹	ND–4.4 ¹	No	Decay of natural and man-made deposits
Chloramines (ppm)	2010	[4]	[4]	3.39	0.97–4.6	NA	NA	2.36	0.51–3.7	No	Water additive used to control microbes
Chlorite (ppm)	2010	1	0.8	NA	NA	NA	NA	0.33	0.01–0.75	No	By-product of drinking water disinfection
Chromium (ppb)	2009	100	100	0.00152	NA	NA	NA	NA	NA	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	2009	4	4	0.81	NA	0.59 ¹	0.24–0.79 ¹	0.58 ¹	0.51–0.64 ¹	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] ⁴ (ppb)	2010	60	NA	15.08	5–27.1	NA	NA	NA	NA	No	By-product of drinking water disinfection
Nitrate (ppm)	2010	10	10	0.20	<0.05–0.50	0.31	<0.10–1.29	0.26	<0.07–0.51	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Simazine (ppb)	2010	4	4	NA	NA	0.19	<0.07–0.21	<0.07	<0.07–0.08	No	Herbicide runoff
TTHMs [Total Trihalomethanes] ⁴ (ppb)	2010	80	NA	13.4	<1.0–32.6	NA	NA	NA	NA	No	By-product of drinking water disinfection
Total Organic Carbon (ppm)	2010	TT	NA	NA	NA	3.8	2.8–5.4	3.17	2.22–5.75	No	Naturally present in the environment
Turbidity ³ (NTU)	2010	TT=1	NA	NA	NA	0.09	ND–0.09	1.14	ND–1.14	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2010	TT=95% of samples<0.3 limit)	NA	NA	NA	100	NA	99.86	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	0.24	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2010	15	0	1.8	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES (THE COLONY WATER UTILITY)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Iron (ppb)	2009	300	NA	0.06	NA	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2009	50	NA	0.05	NA	No	Leaching from natural deposits

¹ Sampled in 2010.

² The 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.

³ Sampled in 2009

⁴ We were required by the U.S. EPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE) and is intended to identify locations in our distribution system that have elevated disinfection by-product concentrations. Disinfection by-products (e.g., HAAs and TTHMs) result from continuous disinfection of drinking water and form when disinfectants combine with organic matter that naturally occurs in the source water.

⁵ Turbidity is a measure of the cloudiness of the water. We monitor It 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 that 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. Secondary MCLs (SMCL) are set for the control of taste and odor.

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.