

Water Quality

REPORT 2016



Este reporte contiene información importante sobre el agua potable. Para asistencia en español, favor de llamar al teléfono 214.509.4500.



Safe, high-quality drinking water... right from your tap.

Allen water customers enjoy water rated “superior” by the Texas Commission on Environmental Quality.

City of Allen Water Utility employees take pride in delivering safe and “superior” quality drinking water to our customers. Our water system is rated “superior” by the Texas Commission on Environmental Quality (TCEQ). This rating reflects the hard work and efforts by our employees to protect your health by delivering and maintaining safe and reliable drinking water. We recognize the North Texas Municipal Water District (NTMWD) for producing high-quality drinking water.

Where does your water come from?

The Water Utilities Department is a municipal water distribution and wastewater collection utility owned by the City of Allen. Wholesale treated water is purchased from NTMWD and delivered to our ground storage tanks. From there, the water is delivered to customers through the city’s distribution system.

NTMWD gets raw water from Lavon Lake and treats it at the Wylie Water Treatment Plant. In addition to Lavon Lake, NTMWD holds water rights in Lake Texoma, Jim Chapman Lake (Cooper Lake), Lake Tawakoni and the East Fork Raw Water Supply Project (Wetland) which augment supplies. For detailed information on our water sources, treatment processes and more, please visit NTMWD’s website at www.ntmwd.com.

A Source Water Susceptibility Assessment from your drinking water sources is currently being updated by the Texas Commission on Environmental Quality. This information describes the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. Information contained in this assessment helps us focus our source water protection strategies. Some of this source water assessment information will be available later this year on Texas Drinking Water Watch at <http://dww.tceq.state.tx.us/DWW>. For more information on source water assessments and protection efforts at our system, please contact us or NTMWD.



City of Allen Water Distribution System

The pumping and storage station is comprised of two pump stations, five ground storage tanks and five elevated storage tanks. The ground storage capacity is 24 million gallons. Elevated storage capacity is 9 million gallons with a system pumping capacity of 80 million gallons per day.

The Water Distribution System is comprised of over 459 miles of water mains with over 4,515 hydrants and 29,788 metered service connections. In the water loss audit submitted to the Texas Water Development Board for the time period of Jan.-Dec. 2015, our system lost an estimated 342,114,000 gallons of water. If you have any questions about the water loss audit, please call 214.509.4502.

City of Allen Distribution Samples Taken Last Fiscal Year

Bacteriological Scheduled.....	1,200
Disinfectant Residual Scheduled.....	1,095
Bacteriological Construction.....	147
Disinfectant Residual Construction.....	147
Trihalomethane Samples.....	32
Haleoacetic Acid Samples.....	32

Why is this report important?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of impurities. The presence of impurities do not necessarily pose a health risk. The U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain impurities in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water,

which must provide the same protection for the health of the general public.

This Consumer Confidence Report (CCR) is an annual summary of the quality of drinking water the City of Allen provides to customers. The CCR lists all the federally regulated or monitored contaminants which have been found in your drinking water. The EPA requires water systems to test for up to 97 contaminants. Our drinking water meets or exceeds all federal (EPA) drinking water requirements.

All Drinking Water May Contain Contaminants

Where do these come from? As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity.

Contaminants that may be present in the source water before treatment may include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants and organic chemical contaminants. NTMWD conducts daily tests on both the raw water in Lavon Lake and the treated water delivered to the City of Allen.

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1.800.426.4791.

Secondary constituents

Many constituents (such as calcium, sodium or iron) found in drinking water can cause taste, color and odor problems. The taste and odor constituents are called secondary constituents and are regulated by the State of Texas, not the EPA. These constituents are not causes for health concerns. Therefore, secondaries are not required to be reported in this document but may affect the appearance and taste of your water.

Cryptosporidium

NTMWD has tested lake water and treated water for the presence of cryptosporidium for several years. Cryptosporidium has been absent in all samples tested. Cryptosporidium is a protozoan which is so small it can be seen only with a microscope. It affects the digestive tracts of humans and animals. At this time, there is no specific drug therapy proven to be effective, but people with healthy immune systems will usually recover from a cryptosporidium infection within two weeks. NTMWD continues to diligently test both source water and treated water for the presence of cryptosporidium.

Special Notice: Weakened Immune Systems

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 a 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 (1.800.426.4791).

Ozonation

NTMWD completed implementation of ozone for primary disinfection at the Wylie Water Treatment Plants in 2014 for compliance with the Disinfection By-Products 2 Rule (DBP2). The DBP2 Rule changed the compliance criteria for trihalomethanes and haloacetic acids which are created when chlorine is used as the primary disinfectant. Ozone is also effective in treating taste and odor compounds associated with the District's surface water sources. Accordingly, consumers should notice an improved taste and odor of their water.

Chloramines

NTMWD uses Chloramines for disinfection purposes. The benefit of using Chloramines is to reduce the levels of disinfection byproducts in the system, while still providing protection from waterborne disease.

The use of Chloramines can cause problems to persons dependent on dialysis machines. A condition known as hemolytic anemia can occur if the disinfectant is not completely removed from the water that is used for the dialysate. Consequently, the pretreatment scheme used for the dialysis units must include some means, such as a charcoal filter, for removing the Chloramine from the water used. Medical facilities should also determine if additional precautions are required for other medical equipment. In addition, Chloraminated water may be toxic to fish. If you have a fish tank, please make sure that the chemicals or filters that you are using are designed for use in water that has been treated with Chloramines. You may also need to change the type of filter that you use for fish tanks.

2016 Annual Drinking Water Quality Report

(Consumer Confidence Report)

REGULATED AT THE TREATMENT PLANT

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Likely Source of Contamination
Antimony	2015	0.2	0-0.2	6	6	ppb	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; and test addition.
Arsenic	2015	0.7	0.0-0.7	0	10	ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	2015	0.055	0.039-0.055	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	2015	0.92	0.53-0.92	100	100	ppm	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride	2015	0.86	0.25-0.86	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen)	2015	1.79	0.05-1.79	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Selenium	2015	2	0-2	50	50	ppb	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.

Nitrate Advisory: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Likely Source of Contamination
Beta/Photon emitters	4/29/2010	4.4	4.4 - 4.4	0	50	pCi/L	Decay of natural and man-made deposits.
Gross alpha excluding radon and uranium	4/29/2010	Levels lower than detect level	0 - 0	0	15	pCi/L	Erosion of natural deposits.

Synthetic organic contaminants including pesticides and herbicides	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Likely Source of Contamination
Atrazine	2015	0.19	0.13-0.19	3	3	ppb	Runoff from herbicide used on row crops.
Di (2-ethylhexyl) phthalate	2015	0.7	0.0-0.7	0	6	ppb	Discharge from rubber and chemical factories.

Turbidity

	Limit (Treatment Technique)	Level Detected	Likely Source of Contamination
Highest single measurement	1 NTU	0.65	Soil runoff.
Lowest monthly percentage (%) meeting limit	0.3 NTU	99.00%	Soil runoff.

NOTE: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration.

Maximum Residual Disinfectant Level

Disinfectant Type	Year	Average Level	Minimum Level	Maximum Level	MRDLG	Units	Source of Chemical
Chlorine Dioxide	2015	0	0	0.03	0.8	ppm	Disinfectant.
Chlorite	2015	0.03	0	0.33	n/a	ppm	Disinfectant.

Total Organic Carbon

	Collection Date	Highest Level Detected	Range of Levels Detected	Units	Likely Source of Contamination
Source Water	2015	7.6	3.82-7.6	ppm	Naturally present in the environment.
Drinking Water	2015	6.32	1.45-6.32	ppm	Naturally present in the environment.
Removal Ratio	2015	62.0%	21.9-62.0	% removal *	N/A

NOTE: Total organic carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection by-products. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. By-products of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.

* Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed.

REGULATED IN THE DISTRIBUTION SYSTEM MAXIMUM RESIDUAL DISINFECTANT LEVEL

Year	Disinfectant	Highest Average Sample	Minimum Level	Maximum Level	MRDL	MRDLG	Unit of Measure	Source of Chemical
2015	Chlorine Residual (Chloramines)	2.6	0.64	3.9	4.0	<4.0	ppm	Disinfectant used to control microbes.

DISINFECTION BYPRODUCTS

Year	Contaminant	Highest Average Sample	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Source of Contaminant
2015	Total Haloacetic Acids	28.5	19.7	34.5	60	N/A	ppb	Byproduct of drinking water disinfection.
2015	Total Trihalomethanes	39	27.2	43	80	N/A	ppb	Byproduct of drinking water disinfection.
2015	Bromate	8.9	0	8.9	10	5	ppb	Byproduct of drinking water ozonation

NOTE: Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.

UNREGULATED CONTAMINANTS

Year or Range	Contaminant	Highest Average Sample	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Source of Contaminant
2015	Chloroform	13.8	5.3	19.3	N/A	N/A	ppb	Byproduct of drinking water disinfection.
2015	Bromoform	5	3.2	6.3	N/A	N/A	ppb	Byproduct of drinking water disinfection.
2015	Bromodichloromethane	14	11	15.6	N/A	N/A	ppb	Byproduct of drinking water disinfection.
2015	Dibromochloromethane	9.1	5.7	13.2	N/A	N/A	ppb	Byproduct of drinking water disinfection.

NOTE: Bromoform, chloroform, dichlorobromomethane, and dibromochloromethane are disinfection byproducts. There is no maximum contaminant level for these chemicals at the entry point to distribution.

INORGANIC CONTAMINANTS

Year	Contaminant	Highest Average Sample	MCL	Unit of Measure	Source of Contaminant
2015	Nitrate	0.974	10	ppm	Runoff from fertilizer use; leaching; erosion; or natural deposits.
2013	Nitrite	0.004	1	ppm	Runoff from fertilizer use; leaching;

TOTAL COLIFORM

Year	Contaminant	Highest Monthly Number of Positive Samples	MCL	Unit of Measure	Source of Contaminant
2015	Total Coliform Bacteria	1	*	Presence	Naturally present in the environment.

NOTE: No more than 5% positive. Total coliform bacteria are used as indicators of microbial contamination of drinking water because testing is easy. While not disease-causing organisms themselves, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are more hardy than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption.

REGULATED AT THE CUSTOMER'S TAP LEAD AND COPPER

Year	Contaminant	The 90th Percentile	Number of sites exceeding action level	Action Level	Unit of Measure	Source of Contaminant
2015	Lead	1.8	0	15	ppb	Corrosion of customer plumbing systems; erosion of natural deposits
2015	Copper	0.99	0	1.3	ppm	Corrosion of customer plumbing systems; erosion of natural deposits; leaching from wood preservatives.

Additional Health Information for Lead: Lead was not detected during testing as indicated by this report. 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 <http://www.epa.gov/safewater/lead>.

2015 analyses data from most recent testing done in accordance with regulations.

Arithmetic averages of three distribution points must be less than MCL of 1.0 ppm. Three samples are collected monthly in the distribution system and sent for analysis by ion chromatography.



Protect Storm Water

Did you know that runoff and debris collected in storm drains goes straight to our local ponds and lakes?

Do your best to keep our waterways clean and never sweep or dump anything down storm drains. Our local streams, ponds and lakes provide drinking water, recreation, a habitat for local wildlife and more. It also violates City ordinance to allow any pollutants to enter the storm drain system. Learn more at CityofAllen.org/Storm-Water or contact the Illicit Discharge Hotline at 214.509.4512.

H2Ome Improvement Rebates

The City of Allen wants to help residents conserve water. Currently there are several rebates available as credits on your water bill. For more rebate information visit CityofAllen.org/Water-Rebates.

SMART Irrigation Technology Equipment

50% of the cost up to a maximum of \$125 for installation of qualifying SMART irrigation technology equipment

Low-Flow Toilet

50% of the cost up to a maximum of \$100 for replacing an existing high-volume toilet with a new qualifying low-flow toilet.

Water Efficient Washing Machines

50% of the cost up to a maximum of \$75, \$100 or \$125, depending on tier rating, for a qualifying water-efficient washing machine purchase.



Terms to Know

The chart on the adjoining page lists the contaminants detected in Allen drinking water during calendar year 2015. Numerous tests detected no other contaminants. Listed below are the definitions for abbreviations on the adjoining page. As noted, the water quality surpasses standards for each contaminant as required by law. For additional information, please contact the Allen Water Utilities Department at 214.509.4502.

- » **Maximum Contaminant Level (MCL)** is the highest permissible level of a contaminant in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- » **Maximum Contaminant Level Goal (MCLG)** is the level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for margin of safety.
- » **Maximum Residual Disinfectant Level (MRDL)** is 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)** is 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.
- » **Treatment Technique (TT)** is required process intended to reduce the level of a contaminant in drinking water.

- » **Action Level (AL)** is the concentration of a contaminant which, if exceeded, triggers treatment or other requirement which a water system must follow.
- » **ppm** stands for "parts per million" or milligrams per liter (mg/l). One part per million equals one drop of red dye in 26 gallons of water.
- » **ppb** stands for "parts per billion" or micrograms per liter (ug/l). One part per billion equals one drop of red dye in 26,000 gallons of water.
- » **pCi/L** stands for picocuries per liter. A measure of radioactivity.
- » **mrem/yr** stands for millirems per year. A measure of radiation absorbed by the body.
- » **NTU** stands for Nephelometric Turbidity Units. This is the unit to measure water turbidity.
- » **Turbidity** is a measure of water's clarity. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Water with lower turbidity is clearer than water with higher turbidity.
- » **THM** is the abbreviation for trihalomethanes, a by-product of disinfection of water. 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 system, and may have an increased risk of getting cancer.
- » **HAA** stands for haloacetic acid, a by-product of disinfection.
- » **TOC** is the abbreviation for total organic carbon.
- » **ND** is the abbreviation for "none detected."
- » **cysts/L** stands for cysts per liter.

PUBLIC PARTICIPATION OPPORTUNITIES

The Water Department is part of the Allen City Government. The Allen City Council meets the second and fourth Tuesdays of every month at 7 p.m. at Allen City Hall.

Email us at coa@cityofallen.org. Visit us online at CityofAllen.org.

How much water does your sprinkler use? Find out with...

Sprinkler MATH!

DRIP IRRIGATION



gallons per minute
in each 10x10' area

SPRAY HEAD



gallons per minute
for each spray head

ROTOR HEAD



gallons per minute
for each rotor head

$$\frac{\text{\# OF SPRINKLER HEADS ON YOUR PROPERTY}}{\text{\# OF GALLONS PER MINUTE (SEE ABOVE)}} \times \frac{\text{\# OF MINUTES SCHEDULED PER USE}}{\text{\# OF GALLONS CONSUMED PER USE}} =$$

$$\frac{\text{\# OF SQUARE FEET OF IRRIGATED LAWN}}{100} \times 1.5 \times \frac{\text{\# OF MINUTES SCHEDULED PER USE}}{\text{\# OF GALLONS CONSUMED PER USE}} =$$



Allen typically gets 38 inches of rain each year - nearly 3/4 inch per week!



During the growing season, your lawn only needs a half inch per week.

THE LESSON

If you don't want to waste your water, only use irrigation when it's extremely hot or dry.

FOR MORE WATERING TIPS, VISIT CITYOFALLEN.ORG/OUTDOORWATERING