



# ***Water Quality Report 2014***

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



# Our Message About Your Water

## SAFE, HIGH QUALITY DRINKING WATER - RIGHT FROM YOUR TAP

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 of our employees to protect your health by delivering and maintaining safe and reliable drinking water. The City of Allen recognizes 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 the North Texas Municipal Water District and delivered to our ground storage tanks. From there, the water is delivered to customers through the city’s distribution system.

The NTMWD receives raw water from Lavon Lake for treatment at the Wylie Water Treatment Plants. 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](http://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. The information contained in the assessment allows us to 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/DWWW/>.

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 system is comprised of two pump stations, five ground storage tanks, and five elevated storage tanks. The ground storage capacity is 24 million gallons and the 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 450 miles of water mains with over 4,200 fire hydrants and 28,779 metered service connections.

In the water loss audit submitted to the Texas Water Development Board for the time period of Jan. - Dec. 2013, our system lost an estimated 326,919,775 gallons of water. If you have any questions about the water loss audit, please call 214.509.4502.

## Why is this report important?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some 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 also 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 our customers. The CCR lists all of 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.

### City of Allen Distribution Samples Taken Last Fiscal Year

Bacteriological Scheduled .....	1080
Disinfectant Residual Scheduled.....	1092
Bacteriological Construction.....	104
Disinfectant Residual Construction .....	104
Trihalomethane Samples .....	4
Haloacetic Acid Samples.....	4

# 2014 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
Arsenic	2013	1.21	0.00-1.21	0	10	ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	2013	0.04	.04-.04	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	2013	0.96	0.00-0.96	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride	2013	0.76	0.36-0.76	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen)	2013	0.8	0.56-0.80	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
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.							
Selenium	2013	3.45	2.83-3.45	50	50	ppb	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
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	2013	0.4	0.36-0.40	3	3	ppb	Runoff from herbicide used on row crops.
Di (2-ethylhexyl) adipate	2013	0.74	0 - 0.74	400	400	ppb	Discharge from chemical factories.
Simazine	2013	0.18	0.18-0.18	4	4	ppb	Herbicide runoff.
Turbidity							
			Limit (Treatment Technique)	Level Detected	Likely Source of Contamination		
Highest single measurement			1 NTU	0.82	Soil runoff.		
Lowest monthly percentage (%) meeting limit			0.3 NTU	95.60%	Soil runoff.		
NOTE: 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.							
Maximum Residual Disinfectant Level							
Disinfectant Type	Year	Average Level	Minimum Level	Maximum Level	MRDLG	Units	Source of Chemical
Chlorine Dioxide	2013	<0.10	0	0.12	0.8	ppm	Disinfectant.
Chlorite	2013	0.47	0.09	0.85	N/A	ppm	Disinfectant.
Total Organic Carbon							
	Collection Date	Highest Level Detected	Range of Levels Detected	Units		Likely Source of Contamination	
Source Water	2013	5.61	4.59-5.61	ppm		Naturally present in the environment.	
Drinking Water	2013	4.12	3.16-4.12	ppm		Naturally present in the environment.	
Removal Ratio	2013	37.9%	19%-37.9%	% 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
2013	Chlorine Residual (Chloramines)	2.45	1	3.4	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
2013	Total Haloacetic Acids	17.85	15.6	22.1	60	N/A	ppb	Byproduct of drinking water disinfection.
2013	Total Trihalomethanes	30.9	23.9	35.6	80	N/A	ppb	Byproduct of drinking water disinfection.

### UNREGULATED CONTAMINANTS

Year or Range	Contaminant	Highest Average Sample	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Source of Contaminant
2013	Chloroform	10.7	8.5	13.1	N/A	N/A	ppb	Byproduct of drinking water disinfection.
2013	Bromoform	1.2	1.1	1.3	N/A	N/A	ppb	Byproduct of drinking water disinfection.
2013	Bromodichloromethane	11.4	8.9	12.9	N/A	N/A	ppb	Byproduct of drinking water disinfection.
2013	Dibromochloromethane	7.6	5.4	8.6	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
2013	Nitrate	0.65	10	ppm	Runoff from fertilizer use; leaching; erosion; or natural deposits.
2013	Nitrite	0.02	1	ppm	Runoff from fertilizer use; leaching;

### TOTAL COLIFORM

Year	Contaminant	Highest Monthly Number of Positive Samples	MCL	Unit of Measure	Source of Contaminant
2013	Total Coliform Bacteria	2	*	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.

**NOTICE:** Routine Monitoring Violation Total Coliform Rule: City of Allen, Public Water Supply Number 0430025 failed to collect the required number of bacteriological samples for coliform monitoring of the distribution system during the month of June 2013. Failure to collect all required bacteriological samples is a violation of the monitoring requirements and the City is required to make public notice of the violation. All 86 samples collected met the drinking water standards and this issue cause no health hazard to the public. If you have questions regarding this violation, please contact 214.509.4502.

### 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
2012	Lead	1.67	0	15	ppb	Corrosion of customer plumbing systems; erosion of natural deposits
2012	Copper	0.637	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>.



# 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 from human activity.

Contaminants that may be present in the source water before treatment include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants, and organic chemical contaminants. The NTMWD conducts daily tests on both the raw water in Lavon Lake and the treated water they deliver 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 (1.800.426.4791).

## Is the Water Safe to Drink?

### Secondary Constituents

Many constituents (such as calcium, sodium, or iron), which are often 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.

### 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 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 (1.800.426.4791).

### Cryptosporidium

North Texas Municipal Water District has tested the 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. The NTMWD continues to diligently test both the source and the treated water for the presence of *cryptosporidium*.

### YES!

The taste and odor is a palatability issue. The palatability change that results from naturally occurring algal bloom does not alter the quality of the water.

### What causes the taste and odor changes in the water?

A natural occurrence in all surface water supplies, an "algal bloom" is responsible for the taste and odor changes in the treated drinking water supply. Algal blooms usually occur in Lavon Lake in late July and into August each year, but can occur at any time if the right conditions exist in the water supply reservoir.

### What are the conditions for an algal bloom to occur in Lavon Lake?

Nutrients must be present—such as nitrogen, phosphorus, and calcium, which are derived from decaying vegetation in the lake. Turbidity has lessened—the turbidity or cloudiness of the lake water has cleared up, allowing the penetration of the sunlight. This occurs due to lack of rainfall. Temperature increase—the optimum temperature range of the lake water for an algal bloom to occur is between 80-85 degrees F. When all conditions are met, photosynthesis will take place and the algae will grow and/or proliferate. Algal species, such as *anabaena*, secrete an "oily" substance from their cells that causes the odor in the water supply. Aquatic fungi, *actinomycetes*, grow on dead and decaying algae and cause an earthy taste in the water. The NTMWD is pursuing the implementation of ozonation which is expected to significantly reduce and/or eliminate taste and odor issues caused by algal blooms.