

Annual Water Quality Report for the period of January 1 to December 31, 2018

For more information regarding this report contact:

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

Name Michael Tuley
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PUBLIC PARTICIPATION OPPORTUNITIES

City Council Meeting

Time: 7:00 P.M.

Location: 105 E. Eggleston Street
Manor, TX 78660

Phone No. (512) 272-5555

Este reporte incluye información importante sobre el agua para tomar.
Para asistencia en español, favor de llamar al telefono (512)-272-5555.

Definitions and Abbreviations**The following tables contain scientific terms and measures, some of which may require explanation.**

Action Level:	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Action Level Goal (ALG):	The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.
Avg:	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
Level 1 Assessment:	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
Level 2 Assessment:	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
Maximum Contaminant Level or MCL:	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.
Maximum Contaminant Level Goal or MCLG:	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.
Maximum residual disinfectant level or MRDL:	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 or MRDLG:	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.
MFL	million fibers per liter (a measure of asbestos)
mrem:	millirems per year (a measure of radiation absorbed by the body)
na:	not applicable.
NTU	nephelometric turbidity units (a measure of turbidity)
pCi/L	picocuries per liter (a measure of radioactivity)
ppb:	micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.
ppm:	milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.
ppq	parts per quadrillion, or picograms per liter (pg/L)
ppt	parts per trillion, or nanograms per liter (ng/L)
Treatment Technique or TT:	A required process intended to reduce the level of a contaminant in drinking water.

Source Water Assessment

The TCEQ completed an assessment of your source water and results indicate that some of your sources are susceptible to certain contaminants. The sampling requirements for your water system are based on this susceptibility and previous sample data. Any detections of these contaminants may be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system, contact; Michael Tuley

Sources of Drinking Water

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 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.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

Our drinking water is obtained from River Alluvium Aquifer in Travis County, Manville WSC, Blue Water 130 and City of Austin.

Contaminants 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, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water 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 storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 system's business office.

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; persons 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's Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

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. We are responsible for providing high quality drinking water, but we 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>

Source Water Name		Type of Water	Report Status	Address
1 - 5211 GILBERT LN	FORMERLY G2270241A	GW	Active	5211 GILBERT LN
2 - 4905 GILBERT LN	FORMERLY G2270241B	GW	Active	4905 GILBERT LN
3 - 5313 GILBERT LN	FORMERLY G2270241C	GW	Active	5313 GILBERT LN
4 - Manville WSC		GW	Active	TOWER LN TANK
5- Blue Water 130		GW	Active	Gregg Manor Rd
 Source Name - Surface Water Sources				
City of Austin		SURFACE	As Needed	Us HWY 290 East

Regulated Contaminants Detected

Coliform Bacteria

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	01 positive monthly sample.	2	0	0	N	Naturally present in the environment.

Lead and Copper

Definitions:

Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

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

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2018	1.3	1.3	0.212	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2018	0	15	1.57	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

Water Quality Test Results

- Definitions: The following tables contain scientific terms and measures, some of which may require explanation.
- Avg: Regulatory compliance with some MCLs are based on running annual average of monthly samples.
- Maximum Contaminant Level or MCL: 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.
- Maximum Contaminant Level Goal or MCLG: 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.
- Maximum residual disinfectant level or MRDL: 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.

Residual Disinfectant Level

Year	Disinfectant	Highest Level Detected	Range of Levels Detected	Average Level	MCL	MRDLG	Units	Violation	Source of Contaminant
2018	Free Chlorine	2.80	0.20– 2.80	1.41	4.0	< 4.0	ppm	N	Disinfectant used to control microbes

Regulated Contaminants

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)*	2018	15	1 - 14.9	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2018	89	16.7 – 88.9	No goal for the total	80	ppb	N	By-product of drinking water disinfection.

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	2018	0.0664	0.0664 - 0.0664	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2018	0.29	0.29 - 0.29	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate [measured as Nitrogen]	2018	1	0.13 – 0.81	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

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.

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	08/04/2015	4.1	4.1 - 4.1	0	50	mrem/yr	N	Decay of natural and man-made deposits
Uranium	08/04/2015	1.9	1.9 - 1.9	0	30	ug/l	N	Erosion of natural deposits.

Unregulated Contaminants/ Proposed Standards

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

Year	Disinfectant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Source of Contaminant
2018	Chloroform	25.6	3 – 25.6	N/A	N/A	ppb	N	Byproduct of drinking water disinfection.
2018	Bromoform	16.5	2.7 – 16.5	N/A	N/A	ppb	N	Byproduct of drinking water disinfection.
2018	Bromodichloromethane	26.5	4.6 – 26.5	N/A	N/A	ppb	N	Byproduct of drinking water disinfection.
2018	Dibromochloromethane	37.1	5.1 – 37.1	N/A	N/A	ppb	N	Byproduct of drinking water disinfection.

Secondary and Other Constituents Not Regulated (No associated adverse health effects)

Year	Contaminant	Range of Levels Detected	Highest Level Detected	Secondary	Units	Source of Contaminant
2018	Bicarbonate	283 – 283	283	N/A	ppm	Corrosion of carbonate rocks such as limestone
2018	Calcium	9.93-83.7	83.7	N/A	ppm	Abundant naturally occurring element.
2018	Chloride	12-59.9	59.9	300	ppm	Abundant naturally occurring element; used in water; by-product of oil field activity.
2018	Iron	0.002-0.045	0.045	0.3	ppm	Erosion of natural deposits; iron or steel water delivery equipment or facilities.
2018	Magnesium	10.6	10.6	N/A	ppm	Abundant naturally occurring element.
2018	Manganese	0.002-0.0048	0.0048	0.05	ppm	Abundant naturally occurring element.
2018	Nickel	0.0019-0.0019	0.0019	N/A	ppm	Erosion of natural deposits.
2018	Sodium	47.6-78.1	78.1	N/A	ppm	Erosion of natural deposits; byproduct of oil field activity.
2018	Sulfate	3.05-32.5	32.5	300	ppm	Naturally occurring; common industrial byproduct; by-product of oil field activity.
2018	Total Dissolved Solids	212-406	406	1000	ppm	Total dissolved mineral constituents in water.
2018	Total Hardness as CaCO ₃	39.6-246	246	N/A	ppm	Naturally occurring calcium.
2018	Zinc	0.0163-0.0163	0.0163	5	ppm	Moderately abundant naturally occurring element used in the metal industry

Manville WSC Consumer Confidence Report Data 2018

Their drinking water is obtained from surface and ground water sources. It comes from the Edwards Aquifer, River Alluvium Aquifer, Simsboro and the Carrizo-Wilcox Aquifer. Water purchased from the City of Pflugerville is surface water from Lake Pflugerville.

Inorganic

Year	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Violation	Units	Source of Contaminant
2017	Barium	0.140	0.0505 – 0.140	2	2	N	ppm	Discharge of drilling wastes; Discharge from metal refineries; erosion of natural deposits.
2017	Cyanide	20	<10-20	200	200	N	ppb	Discharge from steel / metal refineries; Discharge from plastic and fertilizer factories.
2017	Fluoride	0.32	0.24 – 0.32	4	4	N	ppm	Erosion of natural deposits; water additive which promote strong teeth; discharge from fertilizer and aluminum factories
2017	Selenium	7.1	0 – 7.1	50	50	N	ppb	Discharge from petroleum and metal refineries; erosion of natural deposit; discharge of mines
2018	Nitrate (measured as Nitrogen)	2.05	0.02 – 2.05	10	10	N	ppm	Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits.

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.

Disinfection Byproducts

Year	Disinfectant	Highest Level Detected	Range of Levels Detected	MRDLG	MCL	Units	Violation	Source of Contaminant
2018	Total Haloacetic Acids	14	4 – 28.5	No goal for the total	60	ppb	N	By-product of drinking water chlorination.
2018	Total Trihalomethanes	22	4.4 - 45.4	No goal for the total	80	ppb	N	By-product of drinking water chlorination.

Radioactive Contaminants

Year	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Violation	Units	Source of Contaminant
2017	Beta/photon emitters	4.4	<4.0 – 4.4	0	5	0	mrem/yr	Decay of natural and man-made deposits
2017	Combined Radium 226 & 228	2.26	<1 – 2.26	0	5	0	pCi/L	Erosion of natural deposits
2017	Gross alpha excluding radon and uranium	6.7	<3.1-6.7	0	5	0	pCi/L	Erosion of natural deposits, including pesticides.
2017	Uranium	2.3	<1 – 2.3	0	5	0	ug/l	Erosion of natural deposits.

Volatile Organic Contaminants

Year	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Violation	Units	Source of Contaminant
2018	Xylenes	0.065	0.065	10	10	N	ppm	Discharge from petroleum factories; Discharge from chemical factories.
2018	Ethylbenzene	1.7	0 – 1.7	700	700	N	ppb	Discharge from petroleum refineries; industrial chemical factories.

Manville WSC Consumer Confidence Report Data 2018**Unregulated Contaminants/ Proposed Standards**

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

Year	Disinfectant	Highest Level Detected	Range of Levels Detected	Violation	Units	Source of Contaminant
2018	Chloroform	25.6	< 1.0 – 25.6	N	ppb	Byproduct of drinking water disinfection.
2018	Bromoform	6.5	< 1.0 – 6.5	N	ppb	Byproduct of drinking water disinfection
2018	Bromodichloromethane	13.5	<1.0 – 13.5	N	ppb	Byproduct of drinking water disinfection
2018	Dibromochloromethane	1.3	<1.0 – 1.3	N	ppb	Byproduct of drinking water disinfection

Secondary and Other Constituents Not Regulated (No associated adverse health effects)

Year	Contaminant	Range of Levels Detected	Highest Level Detected	Secondary	Units	Source of Contaminant
2017	Bicarbonate	201 -389	389	N/A	ppm	Corrosion of carbonate rocks such as limestone
2018	Calcium	10.7 -110	110.0	N/A	ppm	Abundant naturally occurring element.
2018	Chloride	12 - 62	62	300	ppm	Abundant naturally occurring element; used in water; by-product of oil field activity.
2018	Iron	<0.01 -0.405	0.405	0.3	ppm	Erosion of natural deposits; iron or steel water delivery equipment or facilities.
2017	Magnesium	9.20 – 29.70	29.7	N/A	ppm	Abundant naturally occurring element.
2018	Manganese	<0.0010 – 0.0269	0.0269	0.05	ppm	Abundant naturally occurring element.
2017	Nickel	0.0016 – 0.0047	0.0047	N/A	ppm	Erosion of natural deposits.
2018	Sodium	14.2 – 72.8	72.8	N/A	ppm	Erosion of natural deposits; byproduct of oil field activity.
2018	Sulfate	<0.01 - 109	109	300	ppm	Naturally occurring; common industrial byproduct; by-product of oil field activity.
2018	Total Alkalinity asCaCO ₃	102 - 334	334	N/A	ppm	Naturally occurring soluble mineral salts
2018	Total Dissolved Solids	181 - 579	579	1000	ppm	Total dissolved mineral constituents in water.
2018	Total Hardness as CaCO ₃	40.9 - 379	379	N/A	ppm	Naturally occurring calcium.
2018	Zinc	<0.0050-0.0397	0.0379	5	ppm	Moderately abundant naturally occurring element used in the metal industry

Cross County WSC Consumer Confidence Report Data 2018

Inorganic

Year	Contaminant	High	Low	Average	MCL	MCLG	Units	Source of Contaminant
2016	Barium	0.132	0.132	0.132	2	2	ppm	Discharge of drilling wastes discharge; from metal refineries; erosion of natural deposits.
2016	Fluoride	0.18	0.18	0.18	4	4	ppm	Erosion of natural deposits; water additive which promote strong teeth; discharge from fertilizer and aluminum factories.
2018	Nitrate	0.18	0.18	0.18	10	10	ppm	Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits.

Disinfection Byproducts

2018	Total Trihalomethanes (TThm)*	12.2	12.2	12.2	80	No goal	ppb	By-product of drinking water chlorination.
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Secondary and Other Constituents Not Regulated (No associated adverse health effects)

Year	Contaminant	High	Low	Average	Secondary	Units	Source of Contaminant
2012	Calcium	9.13	9.13	9.13	N/A	ppm	Abundant naturally occurring element.
2012	Chloride	23	23	23	300	ppm	Abundant naturally occurring element; used in water; by-product of oil field activity.
2012	Magnesium	3.25	3.25	3.25	N/A	ppm	Abundant naturally occurring element.
2012	Manganese	0.0125	0.125	0.125	0.05	ppm	Abundant naturally occurring element.
2012	pH	8.1	8.1	8.1	7	units	Measure of corrosivity of water.
2012	Sodium	83.4	83.4	83.4	N/A	ppm	Erosion of natural deposits; byproduct of oil field activity.
2012	Total Alkalinity asCaCO3	200	200	200	N/A	ppm	Naturally occurring soluble mineral salts
2012	Total Dissolved Solids	257	257	257	1000	ppm	Total dissolved mineral constituents in water.
2012	Total Hardness as CaCO 3	36.2	36.2	36.2	N/A	ppm	Naturally occurring calcium.

2018 Consumer Confidence Report for Public Water System CITY OF AUSTIN WATER & WASTEWATER

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2018	1.3	1.3	0.0054	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems

Inorganic Contaminants	Collection Date	Highest Level or Average Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	2018	0.01	00.01	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.

Cyanide	2018	130	0 - 130	200	200	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
Fluoride	2018	0.84	0.69 - 0.84	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate [measured as Nitrogen]	2018	0.14	0.04 - 0.14	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Turbidity

	Level Detected	Limit (Treatment Technique)	Violation	Likely Source of Contamination
Highest single measurement	3.5 NTU	1 NTU	Y	Soil runoff.
Lowest monthly % meeting limit	86%	0.3 NTU	Y	Soil runoff.

Information Statement: 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 system and disinfectants.

Unregulated Contaminants/ Proposed Standards

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

Year	Disinfectant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Violation	Units	Source of Contaminant
2018	Bromodichloromethane	15.4	7.0 – 15.4	0	N/A	N	ppb	Byproduct of drinking water disinfection
2018	Chlorodibromomethane	14.3	2.6 – 14.3	60	N/A	N	ppb	Byproduct of drinking water disinfection
2018	Chloroform	21.3	6.1 – 21.3	70	N/A	N	ppb	Byproduct of drinking water disinfection.
2018	Bromoform	4.3	< 1.0 – 4.3	0	N/A	N	ppb	Byproduct of drinking water disinfection
2018	Dichloroacetic Acid	11.1	6.3 – 11.1	0	N/A	N	ppb	Byproduct of drinking water disinfection.
2018	Trichloroacetic Acid	3.8	< 1.0 – 3.8	20	N/A	N	ppb	Byproduct of drinking water disinfection
2018	Dibromoacetic Acid	4.1	< 1.0 – 4.1	No MCLG	N/A	N	ppb	Byproduct of drinking water disinfection
2018	Bromochloromethane	5.9	2.6 – 5.9	No MCLG	N/A	N	ppb	Byproduct of drinking water disinfection

Disinfection byproducts regulated at treatment plant.

Year	Contaminant	Average Level	Minimum Level	Maximum Level	Units of Measure	Source of Contaminant
2013	TOC Removal Ratio (%).	1.70	1.26	2.16	AVG > = 1	NA

Total organic carbon (TOC) no health effects. The disinfectant can combine with TOC to form disinfection byproducts. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens