



2014 Drinking Water Quality Report (Consumer Confidence Report) City of Manor (512) 272-5555

The United States Environmental Protection Agency (EPA) requires that all drinking water suppliers provide a water quality report to their customers on an annual basis. This Drinking Water Quality Report provides information on the City of Manor drinking water.

En Español

Este reporte incluye informacion importante sobre el agua para tomar. Para obtener una copia de esta informacion traducida al Español, favor de llamar al telefono (512) 272-5555.

Our Drinking Water Meets or Exceeds All Federal (EPA) Drinking Water Requirements

This report is a summary of the quality of the water we provide our customers. The analysis was made using the data from the most recent EPA required tests and is presented in the following pages. We hope this information helps you become more knowledgeable about what is in your drinking water.

Where Your Water Comes From

Our drinking water is obtained from ground water sources. It comes from the Colorado River Alluvium Aquifer. Water is purchased from the Manville Wsc. water is surface and groundwater, Blue Water water is groundwater and the City of Pflugerville water is surface water from Lake Pflugerville. The Texas Commission on Environmental Quality (TCEQ) completed an assessment of our source water and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for our water system are based on this susceptibility and previous sample data. Any detection of these contaminants will be found in this Consumer Confidence Report. For more information on source water assessment and protection efforts in our water system, please call (512) 272-5555. Source water assessment information is available on Texas Drinking Water Watch at <http://dww.tceq.state.tx.us/DWW/>.

PUBLIC PARTICIPATION OPPORTUNITIES

The public is welcome to attend the Manor City Council meetings held each third Wednesday at 105 E. Eggleston Street in Manor. For specific question related to this report, please call (512) 272-5555

All Drinking Water May Contain Contaminants

When drinking water meets federal standards, there may not be any health based benefits to purchasing bottled water or home treatment devices. 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.

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 are called secondary constituents and are regulated by the State of Texas, not EPA. These constituents are not causes for health concerns. Therefore, secondary constituents are not required to be reported in this

Special Notice Required Language for ALL Public Water Supplies

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.

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. Contaminants that may be present in source water before treatment include:

DEFINITIONS

Maximum Contaminant Level Goal (MCLG)

The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.

Maximum Contaminant Level (MCL)

The highest permissible level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Residual Disinfectant Level (MRDL)

The highest level of disinfectant allowed in drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG)

The level of a drinking water disinfectant below which there is no known or expected risk to health.

Treatment Technique (TT)

A required process intended to reduce the level of a contaminant in drinking water.

Action Level (AL)

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

NTU - Nephelometric Turbidity Units

MFL - million fibers per liter (a measure of asbestos)

pCi/l - picocuries per liter (a measure of radioactivity)

ppm - parts per million, or milligrams per liter (mg/L)

ppb - parts per billion, or micrograms per liter (ug/L)

ppt - parts per trillion, or nanograms per liter

ppq - parts per quadrillion, or picograms per liter

City of Manor Consumer Confidence Report Data 2014

Inorganic

Year	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Source of Contaminant
2009	Barium	0.0747	0.0757 - 0.0757	2	2	ppm	N	Discharge of drilling wastes discharge; from metal refineries; erosion of natural deposits.
2014	Cyanide	30	30-30	200	200	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
2012	Fluoride	0.31	0.31 - 0.31	4	4.0	ppm	N	Erosion of natural deposits; water additive which promote strong teeth; discharge from fertilizer and aluminum factories.
2014	Nitrate (measure As nitrogen)	2	0.08 - 1.53	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.								

Lead and Copper in Distribution System

Year	Contaminant	The 90th Percentile	# of Sites over AL	Action Level	MCLG	Units	Violation	Source of Contaminant
2013	Lead	0.399	0	15	0	ppb	N	Corrosion of household plumbing systems; erosion.
2013	Copper	2.64	0	1.3	1.3	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing system.
"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 ."								

Residual Disinfectant Level

Year	Disinfectant	Highest Level Detected	Range of Levels Detected	Average Level	MCL	MRDL G	Units	Violation	Source of Contaminant
2014	Chloramine	3.0	0.5 - 3.0	1.39	4.0	< 4.0	ppm	N	Disinfectant used to control microbes
2014	Free Chlorine	3.30	0.57 - 3.30	1.0	4.0	< 4.0	ppm	N	Disinfectant used to control microbes

Cont. City of Manor Consumer Confidence Report Data 2014

Disinfection Byproducts

Year	Disinfectant	Highest Level Detected	Range of Levels Detected	MRDLG	MCL	Units	Violation	Source of Contaminant
2014	Total Haloacetic Acids	1	1 - 1.1	No goal for the total	60	ppb	N	By-product of drinking water chlorination.
2014	Total Trihalomethanes	11	5.7 -15.3	No goal for the total	80	ppb	N	By-product of drinking water chlorination.

Total Coliform

Total coliform bacteria are used as indicators of microbial contamination of drinking water because testing for them 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.

Year	Contaminant	Highest Monthly % of Positive Samples	MCL	Units of Measure	Source of Contaminant
2014	Total Coliform Bacteria	0	*	Presence	Naturally present in the environment.

Radioactive Contaminants

Year	Contaminant	High	Low	Average	MCL	MCLG	Units	Violation	Source of Contaminant
2009	Combined Radium 226 & 228	<0.1	<0.1	<0.1	0	5	pCi/L	N	Erosion of natural deposits.
2009	Gross beta emitters	<4.0	<4.0	<4.0	0	50	pCi/L	N	Decay of natural and man-made deposits.
2009	Gross alpha excluding radon and uranium	3.2	3.2	3.2	0	15	pCi/L	N	Erosion of natural deposits, including pesticides.

Unregulated Initial Distribution System Evaluation for Disinfection Byproducts WAIVED OR NOT YET SAMPLED

Unregulated Contaminants

Year	Disinfectant	Highest Level Detected	Range of Levels Detected	MRDLG	MCL	Units	Violation	Source of Contaminant
2014	Chloroform	2.4	0 – 2.4	N/A	N/A	ppb	N	Byproduct of drinking water disinfection.
2014	Bromoform	3	1.9 – 3	N/A	N/A	ppb	N	Byproduct of drinking water disinfection.
2014	Bromodichloromethane	4.2	1.4 – 4.2	N/A	N/A	ppb	N	Byproduct of drinking water disinfection.
2014	Dibromochloromethane	5.7	2.4 – 5.7	N/A	N/A	ppb	N	Byproduct of drinking water disinfection.

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

Year	Contaminant	Highest Level Detected	Range of Levels Detected	Secondary	Units	Source of Contaminant
2012	Bicarbonate	272	272 – 272	N/A	ppm	Corrosion of carbonate rocks such as limestone.
2009	Calcium	104	104 – 104	N/A	ppm	Abundant naturally occurring.
2012	Chloride	24	24 – 24	300	ppm	Abundant naturally occurring element; used in water; by-product of oil field activity.
2009	pH	6.9	6.9 – 6.9	7	units	Measure of corrosivity of water.
2012	Sulfate	24	24 – 24	300	ppm	Naturally occurring; common industrial byproduct; by-product of oil field activity.
2012	Total Alkalinity asCaCO3	223	223 – 223	N/A	ppm	Naturally occurring soluble mineral salts.
2012	Total Dissolved Solids	356	356 – 356	1000	ppm	Total dissolved mineral constituents in water.
2009	Total Hardness as CaCO 3	307	307 – 307	N/A	ppm	Naturally occurring calcium.

Manville WSC Consumer Confidence Report Data 2014

Inorganic

Year	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Source of Contaminant
2013	Barium	0.138	0.0539-0.138	2	2	ppm	N	Discharge of drilling wastes discharge; from metal refineries; erosion of natural deposits.
2014	Cyanide	0.07	< 0.01 – 0.07	200	200	ppb	N	Discharge from steel / metal refineries; Discharge from plastic and fertilizer factories.
2014	Fluoride	1.88	0.16 – 1.88	4	4.0	ppm	N	Erosion of natural deposits; water additive which promote strong teeth; discharge from fertilizer and aluminum factories
2014	Selenium	0.00135	<0.00100-0.00135	50	50	ppb	N	Discharge from petroleum and metal refineries; erosion of natural deposits; discharges from mines.
2014	Nitrate	3.13	0.01 – 3.13	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits.
2014	Nitrite	0.135	< 0.014 – 0.135	1	1	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.

Residual Disinfectant Level

Year	Disinfectant	Highest Level Detected	Range of Levels Detected	Average Level	MCL	MRDLG	Units	Violation	Source of Contaminant
2014	Chloramine	3.58	.82 – 3.58	1.81	4.0	< 4.0	ppm	N	Disinfectant used to control microbes
2014	Free Chlorine	2.85	.68 – 2.85	1.5	4.0	< 4.0	ppm	N	Disinfectant used to control microbes

Disinfection Byproducts

Year	Disinfectant	Highest Level Detected	Range of Levels Detected	MRDLG	MCL	Units	Violation	Source of Contaminant
2014	Total Haloacetic Acids	31.7	1.4 – 31.7	No goal for the total	60	ppb	N	By-product of drinking water chlorination.
2014	Total Trihalomethanes	109	<0.05 – 109	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	MCL	MCLG	Units	Violation	Source of Contaminant
2014	Combined Radium 226 & 228	1.22	<1 – 1.22	0	5	pCi/L	N	Erosion of natural deposits
2014	Gross alpha excluding radon and uranium	4	4-4	0	5	pCi/L	N	Erosion of natural deposits, including pesticides.

Radioactive Contaminants

Year	Contaminant	Highest Level Detected	Range of Levels Detected	MCL	MCLG	Units	Violation	Source of Contaminant
2014	Xylenes	2.10	<0.05 – 2.10	10	10	N ppm	N	Discharge from petroleum factories; Discharge from chemical factories.

Cont. Manville WSC Consumer Confidence Report Data

Unregulated Initial Distribution System Evaluation for Disinfection Byproducts WAIVED OR NOT YET SAMPLED

Unregulated Contaminants

Year	Disinfectant	Highest Level Detected	Range of Levels Detected	MRDLG	MCL	Units	Violation	Source of Contaminant
2014	Chloroform	28.3	<.05 - 28.3	N/A	N/A	ppb	N	Byproduct of drinking water disinfection.
2014	Bromoform	14.6	<.05 - 14.6	N/A	N/A	ppb	N	Byproduct of drinking water disinfection
2014	Bromodichloromethane	32.6	<.05 - 32.6	N/A	N/A	ppb	N	Byproduct of drinking water disinfection
2014	Dibromochloromethane	36.3	<.05 - 36.3	N/A	N/A	ppb	N	Byproduct of drinking water disinfection

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

Year	Contaminant	Highest Level Detected	Range of Levels Detected	Secondary	Units	Source of Contaminant
2013	Aluminum	0.00474	<0.00400-0.00474	0.05	ppm	Abundant naturally occurring element.
2013	Bicarbonate	276	199 - 276	N/A	ppm	Corrosion of carbonate rocks such as limestone
2013	Calcium	96.5	49.4 - 96.5	N/A	ppm	Abundant naturally occurring element.
2014	Chloride	104	18 -104	300	ppm	Abundant naturally occurring element; used in water; by-product of oil field activity.
2013	Hardness as Ca/Mg	330	159 - 330	N/A	ppm	Naturally occurring calcium and magnesium.
2013	Iron	0.333	0 - 0.333	0.3	ppm	Erosion of natural deposits; iron or steel water delivery equipment or facilities.
2013	Magnesium	21.6	8.7 - 21.6	N/A	ppm	Abundant naturally occurring element.
2013	Manganese	0.0244	0 - 0.0244	0.05	ppm	Abundant naturally occurring element.
2013	Nickel	0.0028	0.000996 - 0.0028	N/A	ppm	Erosion of natural deposits.
2013	pH	7.70	7 - 7.70	7	units	Measure of corrosivity of water.
2013	Sodium	56	20.3 - 56.1	N/A	ppm	Erosion of natural deposits; byproduct of oil field activity.
2013	Sulfate	38.5	24.6 - 38.5	300	ppm	Naturally occurring; common industrial byproduct; by-product of oil field activity.
2013	Total Alkalinity asCaCO3	315	132 -315	N/A	ppm	Naturally occurring soluble mineral salts
2013	Total Dissolved Solids	425	350 - 325	1000	ppm	Total dissolved mineral constituents in water.
2013	Total Hardness as CaCO 3	330	159 - 330	N/A	ppm	Naturally occurring calcium.
2013	Zinc	0.0170	0.0140 -0.0170	5	ppm	Moderately abundant naturally occurring element used in the metal industry

Cross County WSC Consumer Confidence Report Data 2014

Inorganic

Year	Contaminant	High	Low	Average	MCL	MCLG	Units	Source of Contaminant
2012	Barium	0.130	0.130	0.130	2	2	ppm	Discharge of drilling wastes discharge; from metal refineries; erosion of natural deposits.
2012	Fluoride	0.24	0.24	0.24	4	4	ppm	Erosion of natural deposits; water additive which promote strong teeth; discharge from fertilizer and aluminum factories.
2012	Nitrate	0.04	0.03	0.04	10	10	ppm	Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits.

City of Pflugerville Consumer Confidence Report Data 2013

Inorganic

Year	Contaminant	High	Low	Average	MCL	MCLG	Units	Source of Contaminant
2014	Arsenic	0.002	0.002	.002	10	2	ppb	Erosion of natural deposits; runoff from orchards from glass and electronics production wastes.
2014	Barium	0.064	0.064	0.64	2	2	ppm	Discharge of drilling wastes discharge; from metal refineries; erosion of natural deposits.
2013	Fluoride	0.28	0.28	0.28	4	4	ppm	Erosion of natural deposits; water additive which promote strong teeth; discharge from fertilizer and aluminum factories.
2011	Combined Radium 226 & 228	<1.0	<1.0	<1.0	5	0	pCi/L	Erosion of natural deposits. including pesticides
2011	Gross beta emitters	<4.0	<4.0	<4.0	50	0	pCi/L	Decay of natural and man-made deposits.
2011	Gross alpha	2.0	2.0	2.0	15	0	pCi/L	Erosion of natural deposits. including pesticides.

City Pflugerville Surface Water Regulated at the Treatment Plant

Parameter	MCL	MCLG	Data	Avg. Results	High	Low
Fluoride(ppm)	2	2	2014	0.24	0.26	0.23
Nitrate (as N) (ppm)	10	10	2014	2.17	3.15	0.28
Turbidity (ntu)	0.3	NA	2014	0.04	0.39	0.01

99.5 % of all reading below 0.3 NTU

Turbidity - 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.

Year	Contaminant	Highest Single Measurement	Lowest Monthly % of Sample meeting limits	Turbidity Limits	Units of Measure	Source of Contaminant
2014	Turbidity	0.39	99.5	0.3	NTU	Soil runoff

1 The TOC removal ratio is the percent of TOC removed through the treatment process divided by the percent of TOC required by TCEQ to be removed. TCEQ requirement is to have a running annual average equal to or greater than 1.

Total Organic Carbon Disinfection byproducts regulated at treatment plant - 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. Byproducts of disinfection include trihalomethanes (THMS) and haloacetic acids (HAA), reported elsewhere in the report.

Year	Contaminant	Average Level	Minimum Level	Maximum Level	Units of Measure	Source of Contaminant
2014	Raw Water TOC	5.45	3.20	8.70	ppm	Naturally present in the environment.
2014	Finished Water TOC	3.69	2.60	4.80	ppm	Naturally present in the environment.
2014	Present Removal	29.2	9.80	53.7	% removal	NA
2014	Total Hardness	189			mg/L	Naturally present in the environment.

Cont. City of Pflugerville Consumer Confidence Report Data

Cryptosporidium Monitoring Information - The City started monitoring for cryptosporidium in June of 2008. We collect one sample per month and all samples have been negative. Cryptosporidium is a microbial parasite that may be commonly found in surface water. It made come from animal and human feces in the watershed. The results of our monitoring indicates there may be cryptosporidium in raw water and /or treated finished water. Although treatment by filtration removes cryptosporidium, it cannot guarantee 100 percent removal. The testing methods used cannot determine if the organisms are alive and capable of causing cryptosporidiosis, an abdominal infection with nausea, diarrhea and abdominal cramps that may occur ingestion of contaminated water.

Year	Contaminant	Oocysts	Cysts
2010	Cryptosporidium	0	NA
2010	Giardia	NA	00.008

Regulated in the Distribution Systems

Parameter	Units of Measure	MCL	MCLG	Data	Avg. Results	High	Low
Haloacetic Acids	ppb	60 avg.	NA	2014	2.07	4.30	<1.0
Total Trihalomethanes	ppb	80 avg.	NA	2014	3.58	10.0	<1.0

Regulated Disinfectant

Parameter	Units of Measure	MCL	MCLG	Data	Avg. Results	High	Low
Chloramines	ppm	4	4	2014	1.40	2.90	0.50

Total Coliform

Total coliform bacteria are used as indicators of microbial contamination of drinking water because testing for them 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.

Year	Contaminant	Highest Monthly % of Positive Samples	MCL	Units of Measure	Source of Contaminant
2014	Total Coliform Bacteria	2	*	Presence	Naturally present in the environment.

Synthetic Organic contaminants including pesticides and herbicides

Year	Contaminant	High	Low	Average	MCL	MCLG	Units	Source of Contaminant
2014	Altrazine	0.33	<.33	.033	3	3	ppb	Erosion of natural deposits. including pesticides

Residual Disinfectant Level

Year	Contaminant	High	Low	Average	MCL	MCLG	Units	Source of Contaminant
2014	Chloramine	2.90	0.5	1.40	4	4	ppm	Disinfectant used to control microbes

Disinfection Byproducts

Year	Contaminant	High	Low	Average	MCL	Units	Source of Contaminant
2014	Total Haloacetic Acids	4.3	<1.0	2.07	60	ppm	By-product of drinking water chlorination.
2014	Total Trihalomethanes	10.0	<1.0	3.58	80	ppm	By-product of drinking water chlorination.

Cont. City of Pflugerville Consumer Confidence Report Data

Unregulated Initial Distribution System Evaluation for Disinfection Byproducts WAIVED OR NOT YET SAMPLED

Unregulated Contaminants

Year	Contaminant	High	Low	Average	Units	Source of Contaminant
2014	Chloroform	7.0	<1.0	3.63	ppb	Byproduct of drinking water disinfection
2014	Bromoform	3.70	<1.0	2.24	ppb	Byproduct of drinking water disinfection
2014	Bromodichloromethane	10.0	<1.0	4.98	ppb	Byproduct of drinking water disinfection
2014	Dibromochloromethane	8.70	1.0	3.50	ppb	Byproduct of drinking water disinfection

Lead and Copper in Distribution System

Year	Contaminant	The 90th Percentile	# of Sites over AL	Action Level	MCLG	Units	Violation	Source of Contaminant
2013	Copper	0.053	0	1.3	1.3	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
2013	Lead	0.0019	0	15	0	ppb	N	Corrosion of household plumbing systems; erosion of natural deposits.

"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>."