



VIOLET WATER SUPPLY CORPORATION

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2018 ANNUAL DRINKING WATER QUALITY REPORT

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PWS #TX1780015

This Annual Water Quality Report is for the period of January 1 to December 31, 2018. 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. Violet WSC purchases water from the CITY OF CORPUS CHRISTI. The City of Corpus Christi provides surface water from Lake Corpus Christi (San Patricio County), Choke Canyon (Live Oak County, Lower Colorado River Authority to Lake Texana (Jackson County).

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.

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 regulation establishes 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 systems business office.

You may be more vulnerable than the general population to certain microbial contaminants, such as Cryptosporidium. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants 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 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>.

For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL: <http://gis3.tceq.state.tx.us/swav/Controller/index.jsp?wtrsrc=>.

Further details about sources and source-water assessments are available in Drinking Water Watch at the following URL: <http://dww.tceq.texas.gov/DWW>.

DEFINITIONS and ABBREVIATIONS-The following tables contain scientific terms and measure, 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

Maximum Contaminant Level (MCL): The highest level of a contaminant allowed in drinking water. MCL's are set as close to the MCLGs as feasible using the best available treatment technology.

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.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk. MCLG's allow for a margin of safety.

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 Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): This is the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contamination.

NTU – Nephelometric Turbidity Units

MFL – Million fibers per liter (a measure of asbestos)

pCi/l – Picocuries per liter (a measure of radioactivity)

ppm – Milligrams per liter or parts per billion – or one ounce in 7,350 gallons of water

ppb - Microgram per liter or parts per billion – or one ounce in 7,350 gallons of water

ppt – Parts per trillion, or nanograms per liter (ng/L)

ppq – Parts per quadrillion, or picograms per liter (pg/L)

TT - A required process intended to reduce the level of contaminant in drinking water

Na - Not Applicable

Mrem - Millirems per year (a measure of radiation absorbed by the body)

Treatment Technique or TT: A required process intended to reduce the level of a contaminant in drinking water.

The Board of Directors for Violet Water Supply Corporation meet at 7:00 p.m. every 3rd Monday for a regular monthly meeting, at the Corporation office, 3861 CR 61, Robstown, TX. Este reporte incluye informacion importante sobre el agua para tomar. Para asistencia en espanol, favor de llamar al telefono 361-387-3350.

VIOLET WATER SUPPLY CORPORATION ANNUAL WATER QUALITY DATA FOR 2018

Information About Water Source: Violet WSC purchases water from the CITY OF CORPUS CHRISTI. The City of Corpus Christi provides purchased surface water from Lake Corpus Christi (San Patricio County), Choke Canyon (Live Oak County, Lower Colorado River Authority to Lake Texana (Jackson County).

TCEQ completed a Source Water Susceptibility for all drinking water systems that own their sources. This report describes the susceptibility and types of constituents that may come into contact with the drinking water source based on human activities and natural conditions. The system(s) from which we purchase our water received the assessment report. For more information on source water assessments and protection efforts at our system contact Violet WSC at 361-387-3350.

Lead and Copper

Year	Constituent	MCLG	Action Level (AL)	90 th Percentile	# of Sites over AL	Units	Violations	Likely Source of Contamination
2018	Copper	1.3	1.3	0.087	0	ppm	None	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

REGULATED CONTAMINANTS

Year	Disinfection By-Products	Highest Level Detected	Range of Levels Detected	MCLG	MCL	UNITS	Violations	Likely Source of Contamination
2018	Total Trihalomethanes (TTHm)	41	19.5-38.9	No Goal for the Total	80	ppb	None	By products in drinking water disinfection

‘‘The value in the Highest Level or Average Detected column is the highest average of all TTHM sample results collected at a location over a year.’’

Year	Disinfection By-Products	Highest Single Sample	Range of Levels Detected	MCLG	MCL	UNITS	Violations	Likely Source of Contamination
2018	Haloacetic Acids (HAA5)	27	19.1-24.1	No Goal for the Total	60	ppb	None	By products in drinking water disinfection

‘‘The value in the Highest Level or Average Detected column is the highest average of all HAA5 sample results collected at a location over a year.’’

Year	INORGANIC CONTAMINANTS	Highest Level Detected	Range of Levels Detected	MCLG	MCL	UNITS	Violations	Likely Source of Contamination
2018	Nitrate (Measured as Nitrogen)	0.24	0.16-0.24	10	10	ppm	None	Runoff from fertilizer use; Leaching from Septic tanks, sewage, Erosion of natural deposits.

Year	Disinfectant Residual	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Source in Drinking Water
2018	Chloramine	1.56	1.44-1.60	4	4	ppm	N	Water additive used to control microbes

2018 DRINKING WATER QUALITY REPORT FROM THE CITY OF CORPUS CHRISTI

INORGANIC CONSTITUENTS

Year	Unregulated Contaminants	Average	Range	MCL	MCLG	Source of Contaminant
2018	Barium (ppm)	0.09	0.0872-0.0897	2	2	Discharge of drilling waste, erosion of natural deposits
2018	Fluoride (ppm)	0.38	0.36-0.38	4	4	Erosion of natural deposits, water additive
2018	Nitrate (ppm)	0.19	0.14-0.27	10	10	Petroleum/metal discharge, erosion of natural deposits
2018	Cyanide (ppb)	180	90-180	200	200	Discharge from plastic and fertilizer factories.

Year	Constituents	Highest Single Measurement	Range	MCL	MCLG	Source of Contaminant
2018	Chlorine Dioxide (ppb)	120	0-120	800	800	Water additive used to control microbes
2018	Chlorite (ppm)	0.79	0.21-0.79	1	0.80	Byproduct of drinking water disinfection

TURBIDITY

Year	Turbidity	Highest Single Measurement	Lowest % of Samples Meeting Units	Entry Point	Single Measurement MCL	Source of Contaminant
2018	Plant 1 (NTU)	0.22	100	≤0.3	1.0	Soil runoff
2018	Plant 2 (NTU)	0.22	100	≤0.3	1.0	Soil runoff

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, and diarrhea and associated headaches.

ORGANIC CONTAMINANTS

Year	Constituent	Average	Range	MCL	MCLG	Source of Contaminant
2018	Atrazine (ppb)	0.14	0.14	3.0	3.0	Runoff from herbicide use on row crops

SECONDARY AND OTHER CONSTITUENTS – NOT ASSOCIATED WITH ADVERSE HEALTH EFFECTS

Year	Constituent	Average	Range	MCL	Source of Contaminant
2018	Bicarbonate (ppm)	163	160-163	NA	Corrosion of carbonate rocks such as limestone
2018	Chloride (ppm)	164	138-209	300	Abundant naturally occurring element; used in water purification; byproduct of oil field activity
2018	Hardness as Ca/Mg (ppm)	223	182-285	NA	Naturally occurring calcium and magnesium
2018	Calcium (ppm)	89.8	57.7-122	NA	Abundant naturally occurring element
2018	Aluminum (ppm)	0.18	0.179-0.180	0.2	Abundant naturally occurring element
2018	Sulfate (ppm)	95	76-122	300	Naturally occurring; common industrial byproduct
2018	Sodium (ppm)	111	93.1-147	NA	Erosion of natural deposits; by-product of oil field activity
2018	Total Alkalinity (ppm)	162	131-198	NA	Naturally occurring soluble mineral salts
2018	Total Dissolved Solids (ppm)	604	491-760	1000	Naturally occurring calcium & magnesium
2018	Magnesium (ppm)	9.19	9.12-9.19	NA	Abundant naturally occurring element
2018	Nickel (ppm)	0.0015	NA	NA	Abundant naturally occurring element
2018	Manganese (ppm)	0.0025	NA	0.05	Abundant naturally occurring element
2018	Potassium (ppm)	8.65	8-59-8.65	NA	Abundant naturally occurring element

Many constituents, such as calcium, sodium or irons, 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 USEPA. These constituents are not causes for health concerns. Therefore, secondary's are not required to be reported, but they may greatly affect the appearance and taste of your water.

Year/Constituent	Highest Average	Range	MCL	MCLG	Source of Contaminant
2018 Bromodichloromethane (ppb)	8.4	6.5-8.4	NA	NA	Byproduct of drinking water disinfection
2018 Dibromochloromethane (ppb)	7.9	7.0-7.9	NA	NA	Byproduct of drinking water disinfection
2018 Chloroform (ppb)	4.1	2.4-4.1	NA	NA	Byproduct of drinking water disinfection
2018 Bromoform (ppb)	5.2	2.7-5.2	NA	NA	Byproduct of drinking water disinfection

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

2018 DRINKING WATER QUALITY REPORT FROM THE CITY OF CORPUS CHRISTI – cont'd

Year/Constituent	Highest Average	Range	MCL	MCLG	Source of Contaminant
2018 Bromodichloromethane (ppb)	8.4	6.5-8.4	NA	NA	Byproduct of drinking water disinfection
2018 Dibromochloromethane (ppb)	7.9	7.0-7.9	NA	NA	Byproduct of drinking water disinfection
2018 Chloroform (ppb)	4.1	2.4-4.1	NA	NA	Byproduct of drinking water disinfection
2018 Bromoform (ppb)	5.2	2.7-5.2	NA	NA	Byproduct of drinking water disinfection

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Cryptosporidium Monitoring

Year	Constituent	Highest Monthly % of Positive Samples	Unit of Measure	MCLG	Source of Contaminant
2018	Cryptosporidium	0	Total (Oo)cysts/L	0	Naturally present in the environment

Cryptosporidium is of great concern in public water systems that treat surface water for drinking water sources. Resistant to disinfectants, *Cryptosporidium* can cause gastrointestinal illness in individuals who consume contaminated water. The Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) is required by congress in order to increase protection from microbial contaminants such as *Cryptosporidium* sampling over a two year span. The City of Corpus Christi began sampling in April 2015.

RADIOACTIVE CONTAMINANTS

Year	Constituent	Highest Average	Range	MCL	MCLG	Source of Contaminant
2017	Gross Beta Particle Activity (pCi/L)	8.1	6.6-8.1	50.0	0	Naturally occurring byproduct of oil/gas and mining

UNREGULATED CONTAMINANT MONITORING RULE 3 (UCMR3)

Year	Constituent	Average	Range	MRL (Minimum Reporting Level)
2014	Molybdenum (ppb)	102	1.2-1.3	1
2014	Strontium (ppb)	339	280-390	0.3
2014	Vanadium (ppb)	6.3	5.5-7.0	0.2
2014	Chromium-Hexavalent (ppb)	0.05	0.03-0.08	0.03
2014	Chlorate (ppb)	124	20-210	20