

WATER QUALITY 2017



CITY OF PORT LAVACA
TEXAS

PWS# 0290002

EXCELLENCE IN WATER QUALITY

Port Lavaca Water Department 361-552-9793 Ext. 239

GBRA Water Treatment Plant 361-552-9751

Dear Customer,

The City of Port Lavaca is pleased to provide you with the 2017 Water Quality Report (January 1-December 31, 2017). We take all possible precautions to safeguard your water supply and hope you will be encouraged to learn about the high quality of water provided to you.

The federal Safe Drinking Water Act (SDWA) requires water utilities to issue an annual report to customers, in addition to other notices that may be required by law. This report explains where your drinking water comes from, what it contains, and the health risks our water testing and treatment are designed to prevent.

We are committed to providing you with information about your water supply because informed customers are our best allies in supporting improvements needed to maintain the highest drinking water standards.

We are proud to report that the Texas Commission on Environmental Quality (TCEQ) has assessed our system and determined that your drinking water, provided by the City of Port Lavaca through the Guadalupe-Blanco River Authority's surface water treatment plant, meets or exceeds all federal and state water quality standards.

The tables on this report list all substances that were detected in our treated water, and the highest level at which they were detected. The tables also reflect the highest levels allowed by federal regulatory agencies. Please read this information carefully and if you have questions, call the numbers listed in this report.



Customer Views Welcome

The City of Port Lavaca strongly supports the national primary water regulation compliance process. If you are interested in learning more about the water department, water quality, or participating in the decision-making process, there are a number of opportunities available.

Questions about water quality can be answered by calling 361-552-9793 Ext. 239 from 8 am – 5 pm, Monday through Friday. Inquiries about public participation and policy decisions should be directed to the City Secretary's office at 361-552-9793 Ext. 225.

The Port Lavaca City Council meets every 2nd Monday of the month at 6:30 pm at City Hall and all meetings are open to the public. Our website is www.portlavaca.org. For an electronic version of this document please visit: www.gbra.org/documents/publications/ccrs/2017/PortLavaca.pdf

En Español

Este informe incluye información importante sobre el agua potable. Si tiene preguntas o comentarios sobre este informe en Español, favor de llamar al tel. 361-552-9793 Ext. 239 para hablar con una personal bilingüe en español durante las horas regulares de oficina (8 am – 5 pm).

Information about your 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 EPAs 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 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 providers. 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>.

Where Do We Get Our Drinking Water?

The City of Port Lavaca received its water from surface water diverted from the Guadalupe River and treated at the GBRA Water Treatment Plant operated by the Guadalupe-Blanco River Authority (GBRA).

A Source Water Susceptibility for your drinking water source was conducted by TCEQ in 2004. 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 from which we purchase our water received the assessment report. For more information on source water assessments and protection efforts at our system contact GBRA Water Treatment Plant at 361-552-9751.

Trained operators monitor and test the water, including the addition of fluoride and chloramine, to ensure that our water meets or exceeds all state and federal drinking water standards. The treated water is delivered to the city's water towers and delivered through its distribution system to you. For information on the treatment of your drinking water and water quality protection efforts, contact the GBRA Port Lavaca Water Treatment Plant at 361-552-9751.

What We Found

The following tables list the contaminants that have been found in your drinking water. USEPA requires water systems to test for more than 97 contaminants. The column marked "Highest Level at Any Sampling Point" shows the highest test results during the year. The "Source of Contaminant" column shows where the substance usually originates.

DEFINITIONS and ABBREVIATIONS

Action Level (AL) – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that 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 MCL's are based on running annual average of monthly samples.

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

Maximum Contaminant Level Goal (MCLG) – the level of a contaminant in drinking water below which there is no known or expected health risk. MCLG's 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.

MRL – Minimum reporting level

NA – Not Applicable

ND – Not Detected

NTU's – Nephelometric Turbidity Units

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

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

ppb – parts per billion (ug/L)



TABLE I - Test results for the GBRA water supply to Port Lavaca (Sampled at the GBRA Water Treatment Plant)

Year	Detected Constituent	Measured Concentration	Number of Analyses	MCL	MCLG	Units of Measure	Violation	Source of Constituent
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Inorganics

2017	Barium	0.073	1	2	2	ppm	N	Discharge of drilling wastes; erosion of natural deposits.
2017	Chromium	ND	1	100	100	ppb	N	Discharge from steel and pulp mills; erosion of natural deposits.
2017	Fluoride	0.57	1	4	4	ppm	N	Erosion of natural deposits; water additive which promotes strong teeth; runoff from fertilizer use.
2017	Nitrate	0.14	2	10	10	ppm	N	Runoff from fertilizer use; leaching from septic tanks; treated wastewater effluent; erosion of natural deposits.
2017	Gross Beta Emitters	5.6	1	50	0	pCi/l	N	Decay of mineral and man-made deposits.

Organics

Year	Detected Constituent	Concentration Detected	Number of Analyses	MCL	MCLG	Unit of Measure	Violation	Source of Constituent
2017	Atrazine	0.22	1	3	3	ppb	N	Runoff from herbicide used on row crops.

Unregulated Contaminants

We participated in gathering data under UCMR in order to assist EPA in determining the occurrence of possible drinking water contaminants. If any unregulated contaminants were detected, they are shown in the table below. Bromoform, chloroform, dichlorobromomethane, and dibromochloromethane are disinfection byproducts. There is no maximum contaminant level for these chemicals at the entry point to distribution.

Year	Constituent	Average Concentration of Analysis	Range of Detected Levels	Reason for Monitoring
Trihalomethanes				
2017	Chloroform	22.2	8.6-33.4	Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.
2017	Bromoform	4.55	ND-11.2	
2017	Bromodichloromethane	28.67	16.1-34.3	
2017	Chlorodibromomethane	22.32	12.0-38.5	
Haloacetic Acids				
2017	Chloroacetic acid	ND	ND	Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.
2017	Dichloroacetic acid	13.95	7.8-19.6	
2017	Trichloroacetic acid	6.52	3.1-11.1	
2017	Bromoacetic acid	ND	ND	
2017	Dibromoacetic acid	5.15	2.6-9.9	
2017	Bromochloroacetic acid	6.82	6.4-13.2	

Disinfection Byproducts

Year	Constituent	Average level	Minimum level	Maximum level	MCL	Unit of Measure	Violation	Source of Contaminant
2017	Total Haloacetic Acids	34	14.9	34	60	ppb	N	Byproduct of drinking water disinfection.
2017	Total Trihalomethanes	79	46.5	101	80	ppb	N	Byproduct of drinking water disinfection.

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

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	Detected Constituent	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Violation	Source of Constituent
2017	Turbidity	0.24	100	0.3	NTU	N	Organic particles.

TOC (Total Organic Carbon)

Total organic carbon (TOC) has 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. Byproducts of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.

Year	Detected Constituent	Average Measurement	Lowest Measurement	Highest Measurement	Units of Measurement	Source of Constituent
2017	Source Water TOC	4.23	2.16	7.5	ppm	Naturally occurring and there are no health effects directly associated with it.
2017	Drinking Water TOC	2.41	1.34	3.83	ppm	Naturally occurring and there are no health effects directly associated with it.
2017	Removal Ratio	2.08	1.25	2.81	%	NA

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

Disinfectant Residuals

Year	Constituent	Highest Average	Range of Detects (low-high)	MRDL	MCLG	Units	Violation	Source of Constituent
2017	Chloramines	3.36	0.7-5.0	4	0	ppm	N	Disinfectant used to control microbes

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, their absence from water is a good indication that the water is microbiologically safe for human consumption.

2017 TOTAL COLIFORM REPORTED MONTHLY TESTS FOUND NO COLIFORM BACTERIA
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Violations Table

None

TABLE II - Tested in City of Port Lavaca distribution system

Disinfection Byproducts

Year	Detected Constituent	Average of All Sampling Points	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Constituent
2017	Total Trihalomethanes	88	62.7-106.2	80	No Goal	ppb	Y	By-Product of drinking water chlorination
2017	Total Haloacetic Acids	33	15.9-51.0	60	No Goal	ppb	N	By-Product of drinking water chlorination

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

Maximum Residual Disinfectant Level

Systems must complete and submit disinfection data on the Surface Water Monthly Operations Report (SWMOR).

Year	Disinfectant	Average Level	Minimum Level	Maximum Level	MRDL	Unit of Measure	Violation	Source of Disinfectant
2017	Chloramine Residual	2.25	0.2	5.6	4	ppm	N	Disinfectant used to control microbes.

Lead and Copper

Year	Detected Constituent	MCLG	Action Level	The 90th Percentile	Number of Sites Exceeding Action Levels	Unit of Measure	Violation	Source of Constituent
2017	Lead	0	15	2	0	ppb	N	Corrosion of household plumbing systems; erosion of natural deposits
2017	Copper	1.3	1.3	0.18	1	ppm	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>.

Coliform Bacteria

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, their absence from water is a good indication that the water is microbiologically safe for human consumption.

Year	Detected Constituent	Highest Monthly Number of Positive Samples	MCLG	Unit of Measure	Violation	Source of Constituent
2017	Total Coliform	1	0	Presence/Absence	N	Naturally present in the environment.
2017	E. Coli	1	0	Absence		

* Two or more "coliform present" samples in any single month

Inorganic Contaminants

Year	Constituent	Average level	Minimum level	Maximum level	MCLG	MCL	Unit of Measure	Violation	Source of Contaminant
2017	Nitrate as Nitrogen	0.14	0.14	0.14	10	10	ppm	N	Runoff from fertilizer; Leaching from septic tanks, sewage; Erosion of natural deposits.
2015	Nitrite as Nitrogen	0.01	0.01-0.01	0.01	1	1	ppm	N	Runoff from fertilizer; Leaching from septic tanks, sewage; Erosion of natural deposits.

Secondary and Other Constituents Not Regulated

No associated adverse health effects.

Year	Constituent	Measured Concentration	Number of Analyses	Secondary Limit	Unit of Measure	Source of Constituent
2017	Aluminum	41.2	1	50	ppb	Abundant naturally occurring element
2017	Bicarbonate	138	1	NA	ppm	Corrosion of carbonate rocks such as limestone.
2017	Calcium	52.7	1	NA	ppm	Abundant naturally occurring element
2017	Chloride	47	1	300	ppm	Abundant naturally occurring element, used in water purification, byproduct of oil field activity.
2017	Copper	0.0679	1	NA	ppm	Corrosion of household plumbing systems; erosion of natural deposits
	Hardness as Ca/Mg	176	1	NA	ppm	Naturally occurring calcium and magnesium.
2017	Magnesium	10.7	1	NA	ppm	Abundant naturally occurring element.
2017	pH	7.7	1	7	units	Measure of corrosivity of water.
2017	Nickel	0.0019	1	0.1	ppm	
2017	Sodium	27.4	2	NA	ppm	Erosion of natural deposits. Byproduct of oil field activity.
2017	Zinc	ND	1	5	ppm	
2017	Sulfate	63	1	300	ppm	Naturally occurring; common industrial byproduct; byproduct of oil field activity.
2017	Total Alkalinity as CaCO3	113	1	NA	ppm	Naturally occurring soluble mineral salts.
2017	Total Dissolved Solids	292	1	1000	ppm	Total dissolved mineral constituents in water.
2017	Iron	ND	1	NA	ppm	Abundant naturally occurring element.
2017	Potassium	5.82	1	NA	ppm	
2017	Cyanide	ND	1	NA	ppm	

Unregulated Contaminants (UCMR3)

Collection Date	Contaminant	Analytical Result (ug/L)	MRL (ug/L)	Method ID	Sample ID	Sample Point ID	Source of Constituent
2/24/2014	PFOA	0.0264	0.02	EPA 537	Q1405756001	EP001	Associated with an industrial facility where PFOAs are used to manufacture other products or an airfield at which they were used for firefighting.

VIOLATIONS

Consumer Confidence Rule			
The Consumer Confidence Rule requires community water systems to prepare and provide to their customers annual consumer confidence reports on the water quality of the water delivered to the system.			
Violation Type	Violation Begin	Violation End	Violation Explanation
CCR Report	7/1/2017	2/23/2018	We failed to provide to you, our drinking water customers, an annual report that informs you about the quality of our drinking water and characterizes the risks from exposure to contaminants detected in our drinking water.
Public Notification Rule			
The Public Notification Rule helps to ensure that consumers will always know if there is a problem with their drinking water. These notices immediately alert consumers if there is a problem with their drinking water (e.g. a boil water emergency).			
Violation Type	Violation Begin	Violation End	Violation Explanation
Public Notice Rule Linked to Violation	11/16/2017	12/27/2017	We failed to adequately notify you, our drinking water customers, about a violation of the drinking water regulations.
Total Trihalomethanes (TTHM)			
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 systems, and may have an increased risk of getting cancer.			
Violation Type	Violation Begin	Violation End	Violation Explanation
MCL, LRAA	7/1/2017	9/30/2017	Water samples showed that the amount of this contaminant in our drinking water was above its standard (called a maximum contaminant level and abbreviated MCL) for the period indicated.
MCL, LRAA	10/1/2017	12/31/2017	Water samples showed that the amount of this contaminant in our drinking water was above its standard (called a maximum contaminant level and abbreviated MCL) for the period indicated.

