A high-speed photograph of water splashing, creating a dynamic and refreshing background. The water is captured in mid-air, with numerous droplets and a central stream falling into a pool of water below, creating ripples and splashes. The color palette is various shades of blue and white.

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2019



Presented By
City of Baytown

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2019. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available should you ever have any questions or concerns about your water.

For more information about this report, or for any questions relating to your drinking water, please call Herschel Austin, City of Baytown - Baytown Area Water Authority Superintendent, at (281) 420-5310.

Where Does My Water Come From?

The City of Baytown purchases drinking water from BAWA. The raw water provided to BAWA is purchased from the City of Houston and transported from the Trinity River Basin by way of the Coastal Water Authority Canal. This raw water is treated, cleaned, disinfected, and transported through piping to the City of Baytown.

Important Health Information

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.



Community Participation

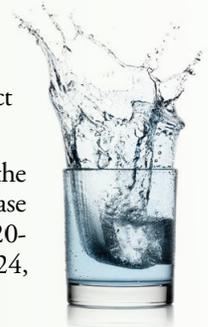
You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the second Thursday of each month at 4:00 p.m. at City Hall, 2401 Market Street, Baytown. The Baytown Area Water Authority (BAWA) meets the third Wednesday of every month at 4:30 p.m. at the same location.

Source Water Assessment

The raw water provided to BAWA by way of the Coastal Water Authority Canal is considered surface water. The Texas Commission of Environmental Quality (TCEQ) completed an assessment of this source water (Trinity River), and the results indicated that some of the source water is susceptible to specific contaminants. The sampling requirements for our water system are based on this susceptibility and previous sample data. Any detection of these contaminants will be in this report.

For more information on source water assessments and protection efforts at our system, please contact us.

If you have any questions about the source water assessment report, please contact BAWA by calling (281) 420-5310 or writing to P.O. Box 424, Baytown, TX 77522.



Lead in Home Plumbing

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 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 two 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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 can acquire naturally occurring minerals, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and which may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

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 our business office. For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

How Long Can I Store Drinking Water?

The disinfectant in drinking water will eventually dissipate, even in a closed container. If that container housed bacteria prior to filling up with the tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

Water Loss Audit

In the water loss audit submitted to the Texas Water Development Board during the year covered by this report, our system had an adjusted total water loss volume of 472,427,738 gallons. If you have any questions about the water loss audit, please call (281) 420-5310.



About Our Violation

This violation occurred in the last quarter of 2018 and was corrected in January 2019. Since this violation rolled over to 2019, we are required to notify consumers of it in our 2019 Consumer Confidence Report.

TCEQ requires community and nontransient, noncommunity public water systems (PWS) to monitor for lead and copper in tap water samples in accordance with 30 TAC, Chapter 290, Section 290.117(c)(2). In addition, the PWS is required to mail a copy of the lead consumer notification of tap results to customers, along with a certification that the notification has been distributed in a manner consistent with 30 TAC, Chapter 290, Section 290.117(i)(6).

The City of Baytown notified the customers of the results but did not provide delivery confirmation to the TCEQ by the required deadline. This situation has been corrected.



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

The percentage of total organic carbon (TOC) removal was measured each month, and the system met all TOC removal requirements set.

We participated in the fourth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES

				City of Baytown		Baytown Area Water Authority			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Atrazine (ppb)	2019	3	3	NA	NA	0.11	NA	No	Runoff from herbicide used on row crops
Barium (ppm)	2019	2	2	0.0474	NA	0.0292	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters (pCi/L)	2015	50 ¹	0	5.2	NA	5.2	NA	No	Decay of natural and man-made deposits
Chloramines (ppm)	2019	[4]	[4]	3.46	1.04–4.10	3.46	2.80–3.77	No	Water additive used to control microbes
Combined Radium (pCi/L)	2016	5	0	1.5	NA	1.5	NA	No	Erosion of natural deposits
Fluoride (ppm)	2019	4	4	0.6	NA	0.46	NA	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2019	60	NA	38.4	16.5–70	39	NA	No	By-product of drinking water disinfection
Nitrate (ppm)	2019	10	10	0.59	NA	0.58	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Simazine (ppb)	2019	4	4	NA	NA	0.13	NA	No	Herbicide runoff
TTHMs [Total Trihalomethanes] (ppb)	2019	80	NA	36.6	22–53.4	51	NA	No	By-product of drinking water disinfection
Turbidity ² (NTU)	2019	TT	NA	NA	NA	0.15	0.07–0.15	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2019	TT = 95% of samples meet the limit	NA	NA	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

				City of Baytown		Baytown Area Water Authority			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/ TOTAL SITES	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2018	1.3	1.3	0.48	0/60	ND ³	0/1 ³	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2018	15	0	2.7	1/60	ND ³	0/1 ³	No	Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SCL	MCLG	City of Baytown		Baytown Area Water Authority		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Chloride (ppm)	2018	300	NA	38.7	37.3–43.4	36 ⁴	36–36 ⁴	No	Runoff/leaching from natural deposits
Manganese (ppb)	2018	50	NA	10	1.8–124	13.8 ⁵	13.8–13.8 ⁵	No	Leaching from natural deposits
pH (Units)	2019	>7.0	NA	7.68	7.43–8.25	NA	NA	No	Naturally occurring
Sulfate (ppm)	2018	300	NA	28.7	24.9–37.4	23 ⁵	23–23 ⁵	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids [TDS] (ppm)	2019	1,000	NA	181	172–250	181	181–181	No	Runoff/leaching from natural deposits
Zinc (ppm)	2019	5	NA	NA	NA	0.0551	0.0551–0.0551	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES ⁶

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	City of Baytown		Baytown Area Water Authority		TYPICAL SOURCE
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	
Bromodichloromethane (ppb)	2019	11	3.6–13.8	11.7	11–11.7	By-product of drinking water chlorination
Chloroform (ppb)	2019	21	14.5–46.5	37.3	21–37.3	By-product of drinking water chlorination
Dibromochloromethane (ppb)	2019	3	<1–4.4	3	1.9–3	By-product of drinking water chlorination
Sodium (ppm)	2018	27.8	27.1–32.3	27.8 ⁵	27.8–27.8 ⁵	Erosion of natural deposits

¹ The MCL for beta particles is 4 mrem/year. U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

² Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

³ Sampled in 2017.

⁴ Sampled in 2016.

⁵ Sampled in 2019.

⁶ Unregulated contaminants are those for which U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

UNREGULATED CONTAMINANT MONITORING RULE PART 4 (UCMR4) - CITY OF BAYTOWN ⁶

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
HAA5 (ppb)	2019	24.14	20.08–27.14	By-product of drinking water chlorination
HAA6Br (ppb)	2019	13.82	11.64–15.19	By-product of drinking water chlorination
HAA9 (ppb)	2019	36.04	29.72–39.93	By-product of drinking water chlorination
Manganese (ppb)	2019	16	16–16	Abundant naturally occurring element

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90 percent of our lead and copper detections.

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

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

SCL (Secondary Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

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