

A close-up photograph of water being poured from a glass pitcher into a clear glass. The water is captured in mid-pour, creating a dynamic splash and bubbles. The background is a blurred wooden surface.

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2018



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, 2018. 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. Thank you for allowing us the opportunity to serve you and your family.

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

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

We want our valued customers to be informed about your water utility. You can attend a scheduled public meeting on July 17, 2019, at 9:30 a.m., in the Baytown City Hall Council Chambers, 2401 Market St. For more information, please call (281) 420-5310.

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 that 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 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 the 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.

Source Water Description

Our drinking water is obtained from SURFACE water sources. The raw water provided to the City of Baytown comes from the Baytown Area Water Authority by way of the Coastal Water Authority Canal. TCEQ completed an assessment of our source water (Trinity River), 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 report. For more information on source water assessments and protection efforts at our system, please contact us.

If you have any questions about this report or concerning your water utility, please contact the Baytown Area Water Authority by calling (281) 420-5310 or writing to P.O. Box 424, Baytown, TX 77522.

We remain vigilant in delivering the best-quality drinking water

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



Water Conservation Tips

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Treatment Train Description

The Baytown Area Water Authority treats your water using conventional coagulation, sedimentation, disinfection, and filtration to remove or reduce possible harmful contaminants that may be in the source water. Ferric chloride and a coagulant aid called cationic polymer achieve coagulation. The treated water is then filtered through anthracite coal, sand, and gravel. Disinfection is achieved by the addition of ammonia and chlorine, which form monochloramines.

Water Loss Audit

In the water loss audit submitted to the Texas Water Development Board during the year covered by this report, our system lost an estimated 563,982,266 gallons of water. If you have any questions about the water loss audit, please call (281) 420-5310.

QUESTIONS?

For any drinking water questions or more information about this report, please call Sterling Beaver, BAWA Superintendent, at (281) 420-5310.

MISSED DEADLINE

VIOLATION TYPE	EXPLANATION	DATE AND LENGTH OF VIOLATION
Lead Consumer Notice	The Texas Commission on Environmental Quality (TCEQ) requires community and nontransient noncommunity Public Water Systems (PWSs) to monitor for lead and copper tap 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.	Between 9/29/2018 and 1/31/2019



BY THE NUMBERS

The number of Olympic-sized swimming pools it would take to fill up all of Earth's water.

800
TRILLION

1¢ The average cost for about 5 gallons of water supplied to a home in the U.S.

The amount of Earth's water that is salty or otherwise undrinkable, or locked away and unavailable in ice caps and glaciers.

99%

50 GALLONS The average daily number of gallons of total home water use for each person in the U.S.

The amount of Earth's surface that's covered by water.

71%



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. Also, the water we deliver must meet specific health standards. Here, we show only 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 often 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.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Atrazine (ppb)	2018	3	3	0.18	0.18–0.18	No	Runoff from herbicide used on row crops
Barium (ppm)	2018	2	2	0.0431	0.0431–0.0431	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chloramines (ppm)	2018	[4]	[4]	3.05	1.0–4.5	No	Water additive used to control microbes
Combined Radium (pCi/L)	2015	5	0	1.5	1.5–1.5	No	Erosion of natural deposits
Fluoride (ppm)	2018	4	4	0.8	0.49–0.89	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2018	60	NA	27.5	1.8–39.2	No	By-product of drinking water disinfection
Methoxychlor (ppb)	2016	40	40	0.23	0.23–0.23	No	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Nitrate (ppm)	2018	10	10	0.33	0.33–0.33	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Simazine (ppb)	2017	4	4	0.07	0.07–0.07	No	Herbicide runoff
TTHMs [Total Trihalomethanes] (ppb)	2018	80	NA	33.7	20.8–42.9	No	By-product of drinking water disinfection
Total Coliform Bacteria (Positive samples)	2018	TT	NA	4	NA	No	Naturally present in the environment
Total Organic Carbon ¹ (ppm)	2018	TT	NA	4.72	4.11–5.44	No	Naturally present in the environment
Turbidity ² (NTU)	2018	TT	NA	0.2	0.08–0.2	No	Soil runoff

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

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

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2018	300	NA	40.1	37.3–43.4	No	Runoff/leaching from natural deposits
Iron (ppb)	2018	300	NA	32.7	2.4–383	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2018	50	NA	32.6	1.8–124	No	Leaching from natural deposits
pH (Units)	2018	>7.0	NA	7.67	7.43–8.25	No	Naturally occurring
Total Dissolved Solids [TDS] (ppm)	2018	1,000	NA	217	172–250	No	Runoff/leaching from natural deposits

UNREGULATED SUBSTANCES³

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2018	9.8	5.6–13	By-product of drinking water chlorination
Chloroform (ppb)	2018	21.5	13.8–27.3	By-product of drinking water chlorination
Dibromochloromethane (ppb)	2018	2.3	1.4–3.3	By-product of drinking water chlorination

¹The value reported under Amount Detected for TOC is the lowest ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than 1 indicates that the water system is in compliance with TOC removal requirements. A value of less than 1 indicates a violation of the TOC removal requirements.

²Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of water quality and the effectiveness of disinfectants.

³Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of monitoring unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

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% of our lead and copper detections.

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

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

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

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.