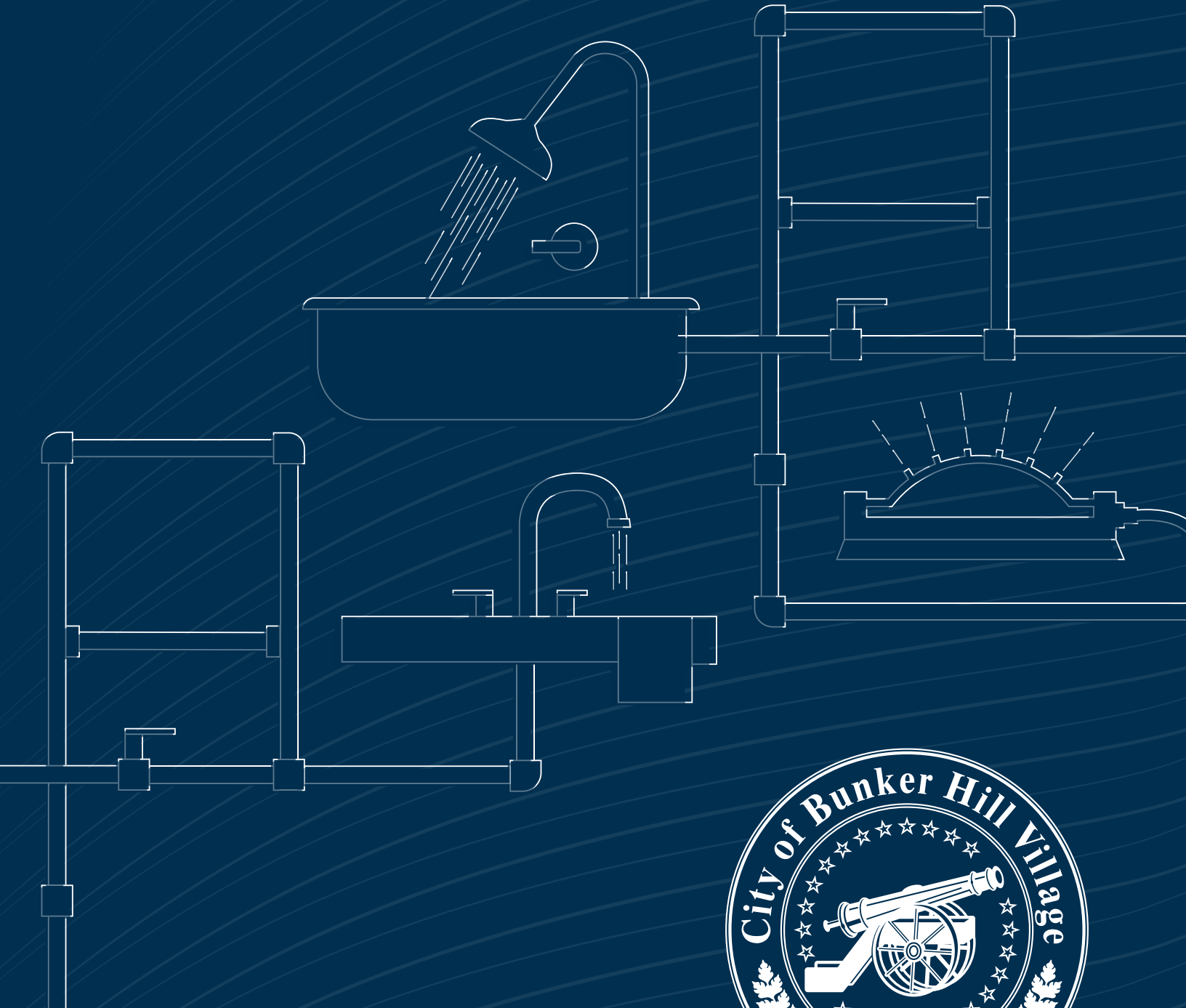


# 2022

## Annual Water Quality Report



# ANNUAL WATER QUALITY REPORT

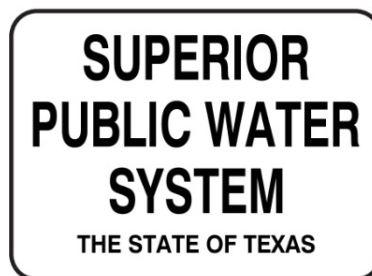
for the period of January 1 to December 31, 2022

The City of Bunker Hill Village is pleased to provide you with this year's Annual Water Quality Report. Our goal is to provide a safe and dependable supply of drinking water. Drinking water information is available on the City's website at **[www.bunkerhilltx.gov](http://www.bunkerhilltx.gov)**.

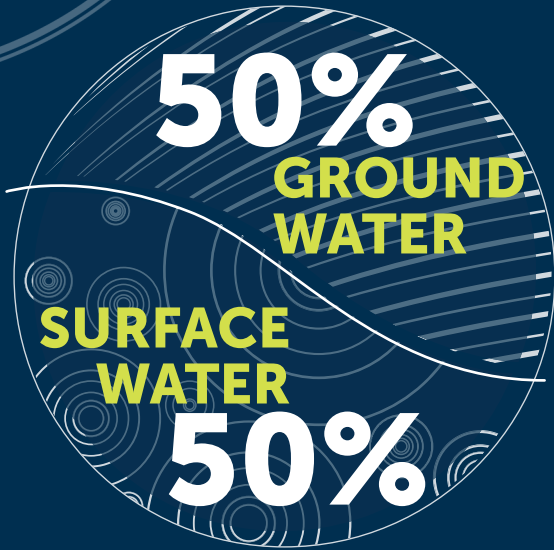
Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono 713-467-9762.

The City of Bunker Hill Village is proud to carry the designation of Superior Public Water System (highest designation possible). The designation is about the overall water system operation and not just the quality of the drinking water. This also includes factors related to the treatment, pumping and storage capacity.

If you have any questions about this report, or concerns about your water quality, please contact Gama Escamilla, Lead Operator at 713-467-9762 or email at [gescamilla@bunkerhilltx.gov](mailto:gescamilla@bunkerhilltx.gov).



## Where does our drinking water come from?



In 2022, your water was a blend of groundwater and surface water; the City of Bunker Hill Village targets a mixture of 50% from each source. The City is mandated to purchase surface water from the City of Houston to supplement the groundwater supply to mitigate subsidence in the area.

The groundwater comes from four (4) water wells owned and operated by the City of Bunker Hill Village. The wells pump water below the surface from the Gulf Coast Aquifer (Chicot and Evangeline)

The surface water is purchased from the City of Houston's East Water Purification Plant #3. This plant treats surface water drawn from Lake Houston, which is located on the west fork of the San Jacinto River, approximately 15 miles northeast from downtown Houston.

Because the City of Houston draws water from surface sources (lakes or reservoirs), it tests regularly for cryptosporidium, a pathogen that causes a diarrheal illness. No cryptosporidium was found in the City of Houston's drinking water in 2022.

Additional guidelines on appropriate means to lessen the risk of infection by cryptosporidium can be learned by calling the EPA's Safe Drinking Water Information Hotline at 1 (800) 426-4791.

## How often is the water tested?

The City of Bunker Hill tests your water daily, weekly, monthly, quarterly, yearly and at greater intervals for as many as 90 contaminants. In 2022, 3,200 individual tests were completed. State and federal regulatory agencies determine minimum testing intervals based on the occurrence of contaminants in the environment and the levels of hazard to human health. The purpose of testing is to ensure that your water quality remains within safe levels as determined by the U.S. Environmental Protection Agency (EPA).

## Who tests the water?

Staff who are licensed by the TCEQ collect water samples from wells, storage facilities, points in the distribution system, and residents' homes. Much of this testing is done in the field, as well as samples that are sent to a state-licensed laboratory for analysis.

## What is the water tested for?

Our water is tested for the following types of substances:

- **Biological (such as viruses and bacteria)**
- **Inorganic (such as salts and metals)**
- **Organic (such as chemicals from industrial or petroleum use)**
- **Radioactive Substances (naturally occurring)**

These substances can occur naturally or result from oil/gas production, mining activities, and pesticide/herbicide uses. The inorganic ions include nitrate, nitrite, fluoride, phosphate, sulfate, chloride, and bromide. While these substances are safe for human consumption in small quantities, in larger quantities, they can cause unpleasant taste, odor, or even illness.

Information on the possible presence of lead in drinking water, along with testing methods, and steps you can take to minimize exposure is available from the EPA at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## How do these substances enter the water?

As rain and water from other sources travels over land and filters through the ground into aquifers, the water dissolves certain naturally occurring minerals, and breaks down naturally occurring radioactive materials. This water may also pick up dissolved substances resulting from the presence of plants, animals, or human activity.

## Who sets water quality regulations?

To ensure that your water is safe to drink, the EPA regulates drinking water on a federal level, while the TCEQ regulates drinking water on a state level in Texas.

## Is lead in our drinking water?

Elevated levels of lead in drinking water can cause serious health problems, especially for pregnant women and young children. Lead occurs in drinking water primarily from materials and components associated with service lines and home plumbing. Bunker Hill Village Public Works Department is responsible for providing high-quality drinking water, but it cannot control the variety of materials used in plumbing components. Lead levels were found to be under regulatory requirements. 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, please contact Bunker Hill Village Public Works Department and request to have your water tested. You can also obtain information on lead in drinking water, along with testing methods and steps you can take to minimize your exposure to lead, by calling the EPA's Safe Drinking Water Information Hotline at 1 (800) 426-4791, or by going to [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Contaminants that may be present in source water include:

### Microbial

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

### Inorganic

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

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

### Organic chemical

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

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.

# 2022 Definitions & Abbreviations

## DEFINITIONS

THE FOLLOWING TABLES CONTAIN SCIENTIFIC TERMS AND MEASURES, SOME OF WHICH MAY REQUIRE EXPLANATION.

Action Level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Average (Avg)	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
Level 1 Assessment	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.
Level 2 Assessment	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 Contaminant Level (MCL)	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.
Maximum Contaminant Level Goal (MCLG)	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.
Maximum Residual Disinfectant Level (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 (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.
MFL	Million fibers per liter (a measure of asbestos)
mrem	millirems per year (a measure of radiation absorbed by the body)
N/A	not applicable
NTUs	nephelometric turbidity units (a measure of turbidity)
pCi/L	picocuries per liter (a measure of radioactivity)
ppb	micrograms per liter or parts per billion
ppm	milligrams per liter or parts per million
ppq	parts per quadrillion, or picograms per liter (pg/L)
ppt	parts per trillion, or nanograms per liter (ng/L)
Treatment Technique (TT)	A required process intended to reduce the level of a contaminant in drinking water.

# 2022 CITY OF HOUSTON SURFACE WATER ANALYSIS

Sources: Katy Addicks (EP055), East Water Purification Plant #3 (EP101)

## MONITORED AT WATER PLANTS

Contaminant	MCL	MCLG	MIN	AVG	MAX
ARSENIC (MG/L)	0.01	0	0.0027	0.0027	0.0027
ATRAZINE (UG/L)	3	3	ND	0.1	0.2
BARIUM (MG/L)	2	2	0.0628	0.0628	0.0628
FLUORIDE (MG/L)	4	4	0.3	0.3	0.3
NITRATE (MG/L)	10	10	ND	0.115	0.23
SIMAZINE (UG/L)	4	4	ND	0.045	0.09

## SECONDARY STANDARDS

Contaminant	SCL	MIN	AVG	MAX
ALUMINUM (MG/L)	0.01	0.11	0.11	0.11
CHLORIDE (MG/L)	3	51	51	51
MANGANESE (MG/L)	2	0.0044	0.0044	0.0044
PH (SU)	4	7.9	7.9	7.9
SULFATE (MG/L)	10	42	42	42
TDS (MG/L)	4	284	284	284

## DEFINITIONS

MCL – Maximum Contaminant Level

MCLG – Maximum Contaminant Level Goal

SCL – Secondary Contaminant Level

Regulated Contaminants – Contaminants detected at this entry point that have an enforceable MCL

N/A – Not analyzed this calendar year (on reduced sampling due to historical results)

ND – “non-detect” contaminant not detected

EP – Entry Point

# 2022 INFORMATION ABOUT SOURCE WATER

\*The City of Bunker Hill Village purchases water from City of Houston, which is sourced from Lake Houston in Harris County.

Source Water Name	Address	Type of Water	Report Status	Aquifer/ Source
WELL NO. 1	11700 TAYLORCREST RD	GROUNDWATER	ACTIVE	EVANGELINE
WELL NO. 2	11977 MEMORIAL DR	GROUNDWATER	INACTIVE & PLUGGED	EVANGELINE
WELL NO. 3	11900 MEMORIAL DR.	GROUNDWATER	ACTIVE	EVANGELINE
WELL NO. 4	11977 MEMORIAL DR.	GROUNDWATER	ACTIVE	EVANGELINE
WELL NO. 5	11960 TAYLORCREST RD	GROUNDWATER	ACTIVE	EVANGELINE
*SW INTAKE FROM CITY OF HOUSTON	WATER PLANT #1 (TAYLORCREST RD) & WATER PLANT #2 (MEMORIAL DR.)	SURFACE WATER	ACTIVE	LAKE HOUSTON

TCEQ completed an assessment of the City's source water, and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for your water system is based on this susceptibility and previous sample data. Any detections of these contaminants will be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system contact Gama Escamilla, Lead Operator at 713-467-9762.

## COLIFORM BACTERIA

MCL Goal	Total Coliform MCL	Highest Number of Positive Samples	Fecal Coliform or E. Coli MCL	Total Number of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	0 POSITIVE MONTHLY SAMPLES	0	0	0	NONE	Naturally present in the environment

## COPPER & LEAD

Copper & Lead	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
COPPER	2022	1.3	1.3	0.4159	0	PPM	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
LEAD	2022	0	15	0.9	0	PPB	N	Corrosion of household plumbing systems; Erosion of natural deposits.

# 2022 WATER QUALITY TEST RESULTS

Disinfection By-Products	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
HALOACETIC ACIDS (HAA5)	2022	*20	4.8 - 16.6	NO GOAL FOR THE TOTAL	60	PPB	N	By-product of drinking water disinfection.
TOTAL TRIHALOMETHANES (TTHM)	2022	**37	14.6 - 36.8	NO GOAL FOR THE TOTAL	80	PPB	N	By-product of drinking water disinfection.
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
BARIUM	2022	0.0698	0.0698 - 0.0698	2	2	PPM	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
FLUORIDE	04/07/2020	1.18	0.45 - 1.18	4	4.0	PPM	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
NITRATE [MEASURED AS NITROGEN]	2022	0.22	0.06 - 0.22	10	10	PPM	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
COMBINED RADIUM 226/228	01/11/2021	1.5	1.5 - 1.5	0	5	PCI/L	N	Erosion of natural deposits.
Volatile Organic Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
XYLENES	2022	0.0017	0 - 0.0017	10	10	PPM	N	Discharge from petroleum factories; Discharge from chemical factories.

\*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

\*\*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



## DISINFECTANT RESIDUAL

Quarter of 2022	Chemical	Average Level of Quarterly Data	Lowest Result of a Single Sample	Highest Result of a Single Sample	Maximum Residual Disinfectant Level (MRDL)	Maximum Residual Disinfectant Level Goal (MRDLG)	Unit of Measurement	Source of Chemical
1	CHLORAMINES	1.68	0.8	3.2	4.0	4.0	PPM	Disinfectant to control microbes
2	CHLORAMINES	1.46	0.7	2.6	4.0	4.0	PPM	Disinfectant to control microbes
3	CHLORAMINES	1.42	0.8	2.8	4.0	4.0	PPM	Disinfectant to control microbes
4	CHLORAMINES	1.45	0.6	2.8	4.0	4.0	PPM	Disinfectant to control microbes

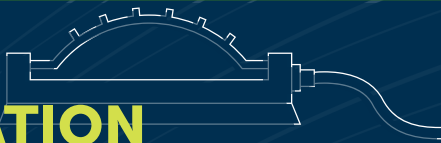
## Water Accountability

The City of Bunker Hill Village produced a total of 382,497,000 gallons of water for the year 2022. The city billed 357,497,000 gallons of water to the utility customers of the city. That represents a 93% water accountability ratio. The State of Texas considers any amount above 85% to be acceptable.

## Water Conservation

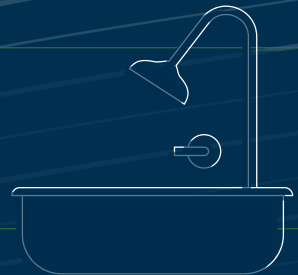
Severe drought conditions and the necessary water restrictions remind us of just how precious water is and how much we tend to take it for granted. With less than 1% of the earth's fresh water sources available, we need to learn to use water wisely.

### IRRIGATION



- Update irrigation schedule to water lawn between 9 p.m. – 4 a.m.
- Adjust irrigation to verify water is going on the lawn
- Check your irrigation system for leaks and ensure system is shutting off properly.

### BATHROOM



- Check toilets for leaks
- Take shorter showers
- Replace showerhead with water-efficient model
- Turn off water while brushing teeth or shaving

### KITCHEN



- Run the dishwasher only when full
- Install faucet aerators
- Dry scrape dishes instead of rinsing

### ADDITIONAL TIPS



- Do not ignore leaky faucets, they are often easy and inexpensive to repair.
- Know where your master water shut-off valve for both your home and irrigation (backflow preventer) is in case a pipe bursts.
- Ensure proper maintenance of water-softening systems.