

# 2021 Annual Drinking Water Quality Report

## *City of Buena Vista*

### **INTRODUCTION**

This Annual Drinking Water Quality Report for calendar year 2021 is designed to provide you with valuable information about your drinking water quality. The City of Buena Vista is committed to providing you with a safe and dependable supply of drinking water, and we want you to understand the efforts we make to protect your water supply. The quality of your drinking water meets all State and Federal requirements administered by the Virginia Department of Health (VDH), Office of Drinking Water.

If you have questions about this report, want additional information about any aspect of your drinking water, or want to know how to participate in decisions that may affect the quality of your drinking water, please contact:

|                                    |
|------------------------------------|
| Mr. Corey Henson at (540) 261-1444 |
|------------------------------------|

### **GENERAL INFORMATION**

The sources of drinking water (both tap water and bottled water) includes, 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 can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: (1) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. (2) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. (3) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses. (4) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems. (5) 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. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Water from surface sources is treated to make it drinkable while groundwater may or may not have any treatment. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the EPA website at <https://www.epa.gov/environmental-topics/water-topics>.

All drinking water, including bottled drinking 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 can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791). All reportable data for the water system can be searched in the public Drinking Water Watch (DWW) database by accessing the portal at <http://www.vdh.virginia.gov/drinking-water/dww>.

### **SOURCES OF YOUR DRINKING WATER**

Your drinking water for 2021 was provided by four wells. Your water was treated with fluoride, pH adjustment and continuously disinfected. Also, a membrane filtration plant is provided for the Dickinson well.

### **SOURCE WATER ASSESSMENTS**

A source water assessment has been completed by VDH. The assessment determined that our sources may be susceptible to contamination because they are located in an area that promotes migration of contaminants from land use activities of concern. More specific information may be obtained by contacting the water system representative listed above.

### **QUALITY OF YOUR DRINKING WATER**

Your drinking water is routinely monitored according to Federal and State Regulations for a variety of contaminants. The tables that follow show the results of our monitoring for the period of January 1<sup>st</sup> through December 31<sup>st</sup>, 2021.

## DEFINITIONS

In the table and elsewhere in this report you will find many terms and abbreviations you might not be familiar with. The following definitions are provided to help you better understand these terms:

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

**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.

**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 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 contamination.

**Nephelometric Turbidity Unit (NTU) -** A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**Non-detects (ND):** Lab analysis indicates that the contaminant is not present

**Parts per billion (ppb) or Micrograms per liter ( $\mu\text{g/L}$ ):** One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Parts per million (ppm) or Milligrams per liter ( $\text{mg/L}$ ):** One part per million corresponds to one minute in two years or a single penny in \$10,000.

**Picocuries per liter (pCi/L):** A measure of the radioactivity in water.

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

**Variations and exemptions:** State or EPA permission not to meet an MCL or a treatment technique under certain conditions

## WATER QUALITY RESULTS

| Microbiological Contaminants             |      |   |   |            |                |   |
|--|------|---|---|------------|----------------|---|
| Contaminant / Unit of Measurement        | MCLG | MCL   | Level Found   | Violation  | Date of Sample | Typical Source of Contamination   |
| Turbidity<br>NTU                         | NA   | TT=0.3<br>NTU   | MAX: 1.06 NTU<br>Range: 0.010 to 1.06 NTU<br>All monthly samples were<br>< 0.3 NTU 97 % of the time | No         | Daily 2021     | Soil runoff   |
|  |      | Lowest<br>monthly<br>percent<br>meeting<br><0.3 NTU<br>– 95 % |   |            |                |   |
| Inorganic Contaminants                   |      |   |   |            |                |   |
| Contaminant / Unit of Measurement        | MCLG | MCL   | Level Found   | Violation  | Date of Sample | Typical Source of Contamination   |
| Nitrate<br>ppm                           | 10   | 10  | Range: ND to 0.85   | No         | September 2021 | Runoff from fertilizer use;<br>Leaching from septic tanks,<br>sewage; Erosion of natural<br>deposits                                  |
| Sodium<br>mg/l                           | -    | -   | 4.77  | No         | September 2021 | Erosion of natural deposits;<br>de-icing salt runoff; water<br>softeners  |
| Fluoride<br>ppm                          | 4    | 4   | Range: 0.2 to 1.5   | No         | Monthly 2021   | Erosion of natural deposits;<br>Water additive which<br>promotes strong teeth;<br>Discharge from fertilizer<br>and aluminum factories |
| Barium<br>ppm                            | 2    | 2   | 0.014   | No         | September 2021 | Discharge of drilling wastes;<br>Discharge from metal<br>refineries; Erosion of natural<br>deposits                                   |
| Radiological Contaminants                |      |   |   |            |                |   |
| Contaminant / Unit of Measurement        | MCLG | MCL   | Level Found / Range   | Violation  | Date of Sample | Typical Source of Contamination   |
| Combined Radium<br>pCi/L                 | 0    | 5   | Range: 0.5 to 1.6   | No         | October 2016   | Erosion of natural deposits   |
| Alpha emitters<br>pCi/L                  | 0    | 15  | Range: 0.3 to 0.8   | No         | October 2016   | Erosion of natural deposits   |
| Gross Beta<br>pCi/L                      | 0    | 50  | Range: 1.2 to 4.7   | No         | October 2016   | Decay of natural and man-<br>made deposits  |
| Lead & Copper                            |      |   |   |            |                |   |
| Contaminant / Unit of Measurement        | MCLG | MCL   | Level Found   | Exceedance | Date of Sample | Typical Source of Contamination   |
| Copper<br>ppm                            | 1.3  | AL=1.3  | 0.087 (90 <sup>th</sup> percentile)<br>None of the twenty samples<br>collected exceeded the AL.     | No         | August 2020    | Corrosion of household<br>plumbing systems; Erosion<br>of natural deposits;<br>Leaching from wood<br>preservatives                    |
| Lead<br>ppb                              | 0    | AL=15   | ND (90 <sup>th</sup> percentile)<br>None of the twenty samples<br>collected exceeded the AL.        | No         | August 2020    | Corrosion of household<br>plumbing systems; Erosion<br>of natural deposits  |
| Disinfection by-Product                  |      |   |   |            |                |   |
| Contaminant/Unit of Measurement          | MCLG | MCL   | Level Found   | Violation  | Date of Sample | Typical Source of Contamination   |
| TTHM's<br>(Total Trihalomethanes)<br>ppb | NA   | 80  | 1 – 8 ppb   | No         | 2021           | By-product of drinking<br>water chlorination  |
| HAA5 (Haloacetic<br>acids) ppb           | NA   | 60  | ND – 1 ppb  | No         | 2021           | By-product of drinking<br>water chlorination  |

| Disinfectant Residual |      |     |                     |           |                |   |
|-----------------------|------|-----|---------------------|-----------|----------------|---|
| Unit of Measurement   | MCLG | MCL | Level Found / Range | Violation | Date of Sample | Typical Source of Contamination           |
| Chlorine<br>mg/L      | 4    | 4   | 0.65 to 1.18        | No        | Monthly        | By-product of drinking water chlorination |

The results in the table are from testing done in 2016 through 2021. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, may sometimes be more than one year old.

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The table lists only those contaminants that had some level of detection. Many other contaminants have been analyzed but were not present or were below the detection limits of the lab equipment.

Maximum Contaminant Levels (MCL's) are set at very stringent levels by the U.S. Environmental Protection Agency. In developing the standards, EPA assumes that the average adult drinks 2 liters of water each day throughout a 70-year life span. EPA generally sets MCL's at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-a-million chance of having the described health effect for other contaminants.

**Additional Information:**

Sodium: There is presently no established standard for sodium in drinking water. An EPA advisory recommends water containing 30 to 60 mg/L should not be used as drinking water due to esthetics such as taste and color. Water containing more than 20 mg/L should not be used by persons whose physician has placed them on severely restricted sodium diets.

Lead contaminants: 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>.

**Violation Information**

We were in full compliance with all monitoring, reporting, water quality requirements and no violations occurred during the calendar year 2021.

The waterworks owners prepared this Drinking Water Quality Report with the assistance and approval of the Virginia Department of Health (VDH).

Signature: \_\_\_\_\_

Date: \_\_\_\_\_