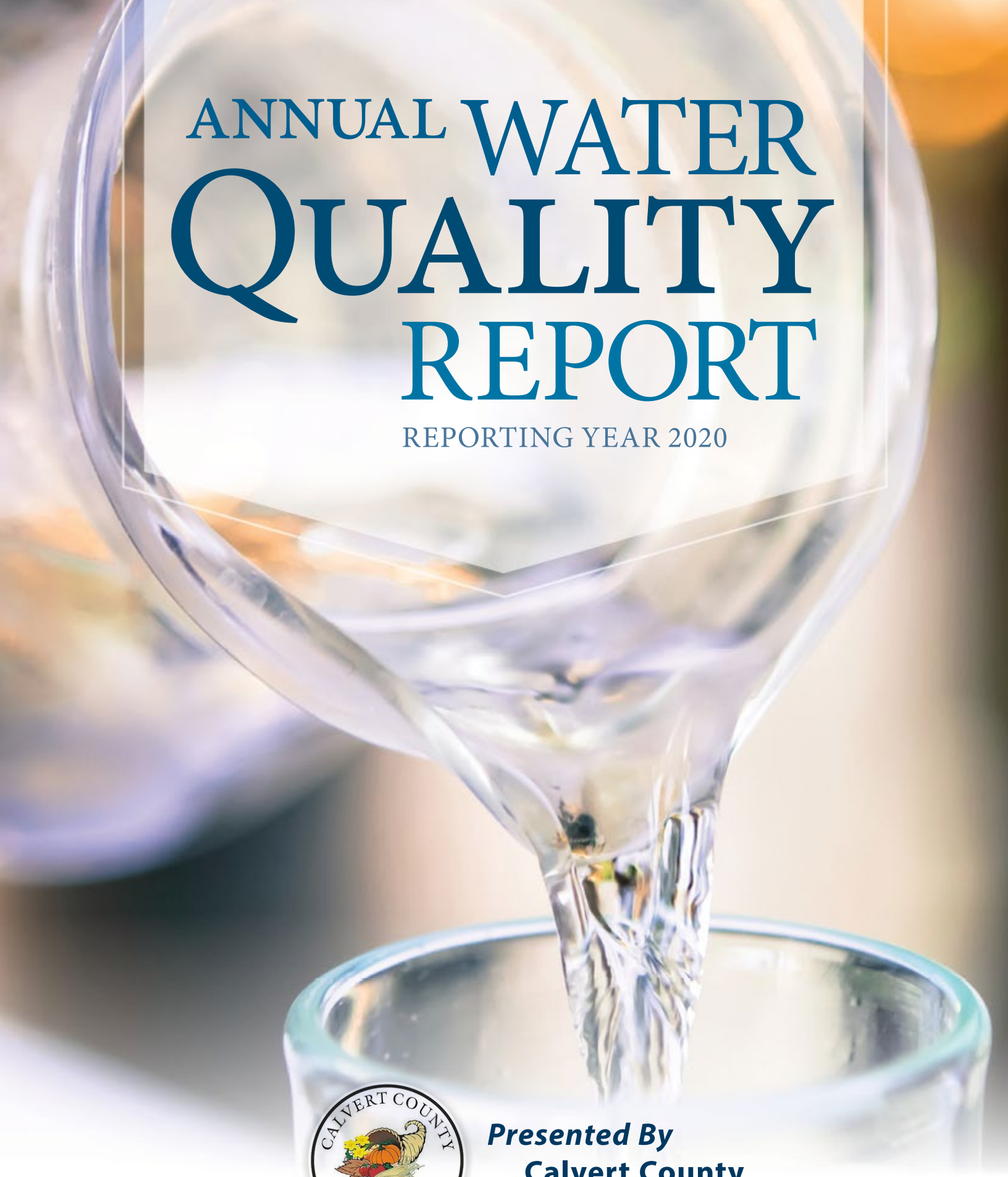
# ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2020



***Presented By***

**Calvert County**
**DPW Water and Sewerage**

## Quality First

Once again, we are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2020. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and 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.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

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

## About Our Violations

During the summer of 2020, we failed to test our drinking water for fluoride in the Chesapeake Heights/ Bayside Forest community during the period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated. We were made aware of this exclusion in February 2021 and we immediately sampled and tested the water for fluoride levels. The levels in February 2021 were in the non-detect range. We are currently adding our sample schedule to a Laboratory Information Management System software system that will help us track sampling deadlines in a more efficient way to avoid this in the future.

During the summer of 2020 we failed to submit our lead and copper report for the White Sands public water system to Maryland Department of the Environment (MDE) within 10 days after the end of the monitoring period. The report was due to MDE by October 10, 2020; and the report was received by MDE on October 15, 2020.

## Where Does My Water Come From?

The county operates multiple public water systems as illustrated on the map inside this report. The Calvert County water systems are supplied by wells in the Aquia, Piney Point, Nanjemoy, Magothy, and Lower Patapsco Aquifers. The water is chlorinated to ensure bacteriological purity and, in some systems, phosphate is used to sequester nuisance metals such as iron. After treatment, the finished water enters the distribution system. It is delivered to approximately 5,470 customers throughout Calvert County. The water distribution systems comprise over 100 miles of water mains, 750 fire hydrants, 14 elevated storage tanks, 7 hydropneumatic tanks, and various components that make it possible for the finished water to be delivered to the County's residential, institutional, industrial, and commercial customers.

## Important Health Information

While your drinking water meets U.S. EPA's standard for arsenic, it does contain low levels of arsenic. U.S. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. U.S. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

## Questions?

For more information about this report, or for any questions relating to your drinking water, please call Tracey Luskey, Laboratory Technician II, (410) 535-1600 x8090.

## Source Water Assessment

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for water systems in Calvert County. The required components of this report as described in Maryland's Source Water Assessment Program (SWAP) are: 1) delineation of an area that contributes water to the source; 2) identification of potential sources of contamination; and 3) determination of the susceptibility of the water supply to contamination.

### Cavalier Country (PWSID 0040002) - 1435 Knight Ave, Dunkirk

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Cavalier Country water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, the water contains a significant concentration of iron. An iron filtration system was installed in 2018.

### Chesapeake Heights (PWSID 0040018) - 4106 Cassell Blvd, Prince Frederick

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Chesapeake Heights water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it has been determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply when the arsenic concentration exceeds the MCL of 10 ppb. The susceptibility of the water supply to radon will depend upon the final MCL that is adopted for this contaminant.

### Cross Point (PWSID 0040052) - 9716 Cross Point Drive, Dunkirk

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Cross Point Subdivision water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers.

### Dares Beach (PWSID 0040005) - Virginia Street, Prince Frederick

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Dares Beach water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it has been determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply when the arsenic concentration exceeds the MCL of 10 ppb. This water system is tested quarterly for arsenic levels. The susceptibility of the water supply to radon will depend upon the final MCL that is adopted for this contaminant.

### Hunting Hills (PWSID 0040006) - 27 Well St., Huntingtown

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Hunting Hills water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it has been determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply when the arsenic concentration exceeds the MCL of 10 ppb. This water system is tested quarterly for arsenic levels. The susceptibility of the water supply to radon will depend upon the final MCL that is adopted for this contaminant.

### Kenwood Beach (PWSID 0040007) - 3365 North Ave., Port Republic

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Kenwood Beach water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

### Lakewood (PWSID 0040013) - 11208 Oakwood Dr., Dunkirk

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Lakewood water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to radon will depend upon the final MCL that is adopted for this contaminant

### Marley Run (PWSID 0040053) - 671 Cox Road, Huntingtown

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Marley Run water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it has been determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply when the arsenic concentration exceeds the MCL of 10 ppb. The Running Annual Average for arsenic is reported as 1 ppb for the year. This refers to the highest running average that would include data from the previous year. Although this system was under the action levels, a new Arsenic Removal System was added to the process in October 2017 to reduce arsenic levels. Since the installation of the new removal system, arsenic levels have been in the non-detectable range. During the reporting period for 2019, there was 1 sample that was reported as 10 ppb, while all other samples remained at non-detectable levels. It is believed this sample could have been obtained from the raw water source as opposed to the treated water after it passed through the Arsenic Removal System. This water system is tested quarterly for arsenic levels.

# Source Water Assessment, *continued*

### Paris Oaks (PWSID 0040010) - 5th St., Owings

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Paris Oaks water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to radon will depend upon the final MCL that is adopted for this contaminant

### Prince Frederick (PWSID 0040011) - 755 Solomon's Island Road and 1520 Mason Ct., Prince Frederick

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Prince Frederick water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it has been determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply when the arsenic concentration exceeds the MCL of 10 ppb. This water system is tested quarterly for arsenic levels. The susceptibility of the water supply to radon will depend upon the final MCL that is adopted for this contaminant.

### Shores of Calvert (PWSID 0040015) - 11637 Riversh ore Dr., Dunkirk

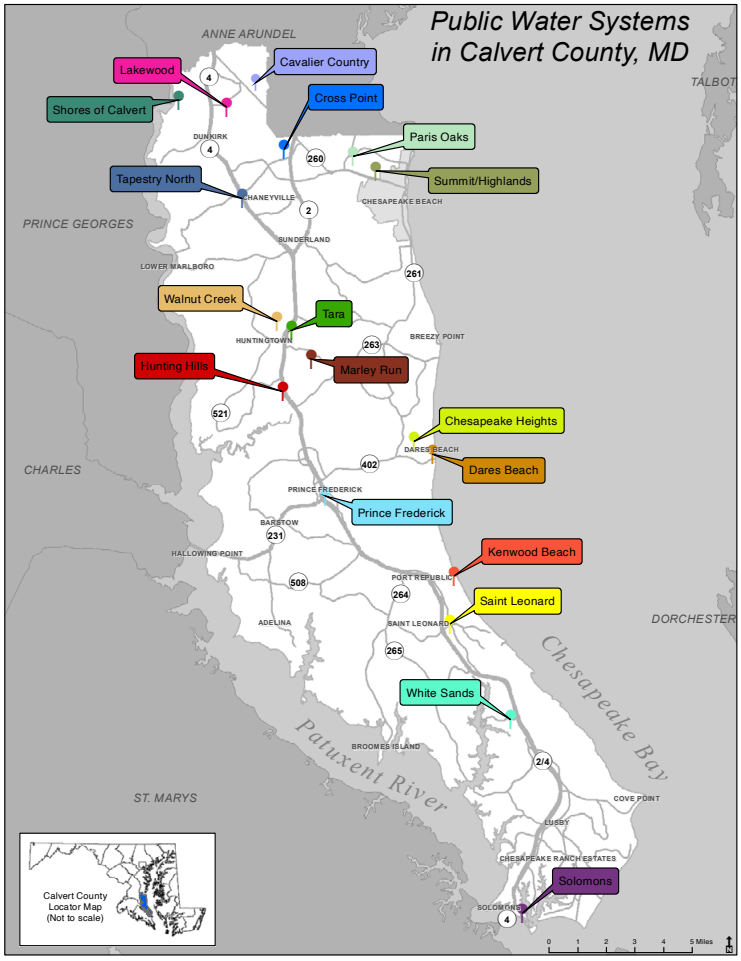
The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Shores of Calvert water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

### Solomons (PWSID 0040027) - 12655 H.G. Truman Rd. and 13885 Dowell Rd, Dowell

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Solomons water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it has been determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply when the arsenic concentration exceeds the MCL of 10 ppb. The susceptibility of the water supply to radon will depend upon the final MCL that is adopted for this contaminant.

### St. Leonard (PWSID 0040013) - 200 Calvert Beach Rd., St. Leonard

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the St. Leonard water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it has been determined that arsenic, a naturally occurring




contaminant, does pose a risk to the water supply when the arsenic concentration exceeds the MCL of 10 ppb. This water system is tested quarterly for arsenic levels.

### Summit/Highlands (PWSID 0040026) - 2812 Waterford Way, Chesapeake Beach

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Summit/Highlands water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

### Tapestry North (PWSID 0040205) - 2175 Haley's Way, Dunkirk

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Tapestry North water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers.

## Source Water Assessment, *continued*

### Tara (PWSID 0040034) - 13 Scarlett Dr., Huntingtown

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Tara Subdivision water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it has been determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply when the arsenic concentration exceeds the MCL of 10 ppb. This water system is tested quarterly for arsenic levels. The susceptibility of the water supply to radon will depend upon the final MCL that is adopted for this contaminant.

### Walnut Creek (PWSID 0040035) - 334 Cross Creek Dr., Huntingtown

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Walnut Creek water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it has been determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply when the arsenic concentration exceeds the MCL of 10 ppb. This water system is tested quarterly for arsenic levels. The susceptibility of the water supply to radon will depend upon the final MCL that is adopted for this contaminant.

### White Sands (PWSID 0040017) - 350 Laurel Dr., Lusby

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the White Sands water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it has been determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply when the arsenic concentration exceeds the MCL of 10 ppb. The susceptibility of the water supply to radon will depend upon the final MCL that is adopted for this contaminant.

## 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 dissolves 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.

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

## Safeguard Your Drinking Water

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides – They contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use U.S. EPA's Adopt Your Watershed to locate groups in your community.
- Organize a storm drain stenciling project with others in your neighborhood. Stencil a message next to the street drain reminding people "Dump No Waste – Drains to River" or "Protect Your Water". Produce and distribute a flyer for households to remind residents that storm drains dump directly into your local water body.

### What type of container is best for storing water?

Consumer Reports has consistently advised that glass or BPA-free plastics such as polyethylene are the safest choices. To be on the safe side, don't use any container with markings on the recycle symbol showing "7 PC"(that's code for BPA). You could also consider using stainless steel or aluminum with BPA-free liners.

### How much emergency water should I keep?

Typically, 1 gallon per person per day is recommended. For a family of four, that would be 12 gallons for 3 days. Humans can survive without food for 1 month, but can only survive 1 week without water.

### 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.

### How long does it take a water supplier to produce one glass of drinking water?

It could take up to 45 minutes to produce a single glass of drinking water.

### How many community water systems are there in the U.S.?

About 53,000 public water systems across the United States process 34 billion gallons of water per day for home and commercial use. Eighty-five percent of the population is served by these systems.

### Which household activity wastes the most water?

Most people would say the majority of water use comes from showering or washing dishes; however, toilet flushing is by far the largest single use of water in a home (accounting for 40% of total water use). Toilets use about 4–6 gallons per flush, so consider an ultra-low-flow (ULF) toilet, which requires only 1.5 gallons.

## 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.

**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.

**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).

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

## Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. 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.

### REGULATED SUBSTANCES

| | | | | Cavalier Country | | Chesapeake Heights | | Cross Point | | Dares Beach | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | MCLG [MRDLG] | AMOUNT DETECTED | RANGE LOW-HIGH | AMOUNT DETECTED | RANGE LOW-HIGH | AMOUNT DETECTED | RANGE LOW-HIGH | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
| **Alpha Emitters** (pCi/L) | 2014 | 15 | 0 | 6 | 6–6 | NA | NA | NA | NA | NA | NA | No | Erosion of natural deposits |
| **Arsenic** (ppb) | 2020 | 10 | 0 | NA | NA | 4 | 4–4 | 2 | 2–2 | 8 | 0–9 | No | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes |
| **Barium** (ppm) | 2020 | 2 | 2 | 0.059 | 0.059–0.059 | 0.047 | 0.047–0.047 | 0.055[3] | 0.055–0.055[3] | NA | NA | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| **Beta/Photon Emitters**[4] (pCi/L) | 2020 | 50 | 0 | 4 | 4–4 | 8.7 | 8.7–8.7 | 6.9[5] | 6.9–6.9[5] | 4.7 | 4.7–4.7 | No | Decay of natural and man-made deposits |
| **Chlorine** (ppm) | 2020 | [4] | [4] | 1.2 | 0.9–1.2 | 1.3 | 0.9–1.3 | 1.4 | 1.3–1.4 | 1.2 | 0.8–1.2 | No | Water additive used to control microbes |
| **Combined Radium** (pCi/L) | 2014 | 5 | 0 | 1.7 | 1.7–1.7 | 0.3[2] | 0.3–0.3[2] | NA | NA | 0.6[2] | 0.6–0.6[2] | No | Erosion of natural deposits |
| **Ethylbenzene** (ppb) | 2017 | 700 | 700 | NA | NA | NA | NA | NA | NA | NA | NA | No | Discharge from petroleum refineries |
| **Fluoride** (ppm) | 2020 | 4 | 4 | 0.22 | 0.22–0.22 | 0.22[7] | 0.22–0.22[7] | 0.2[3] | 0.2–0.2[3] | 0.25[1] | 0.25–0.25[1] | No | Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories |
| **Haloacetic Acids [HAAs]** (ppb) | 2018 | 60 | NA | 5.7 | 5.7–5.7 | 5[2] | 5.4–5.4[2] | 6.2 | 6.2–6.2 | 12[2] | 12–12[2] | No | By-product of drinking water disinfection |
| **TTHMs [Total Trihalomethanes]** (ppb) | 2018 | 80 | NA | 7.9 | 7.9–7.9 | 3[2] | 2.9–2.9[2] | 8.4 | 8.4–8.4 | 12[2] | 12.3–12.3[2] | No | By-product of drinking water disinfection |

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

| | | | | Cavalier Country | | Chesapeake Heights | | Cross Point | | Dares Beach | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | AMOUNT DETECTED (90TH %ILE) | SITES ABOVE AL/TOTAL SITES | AMOUNT DETECTED (90TH %ILE) | SITES ABOVE AL/TOTAL SITES | VIOLATION | TYPICAL SOURCE |
| **Copper** (ppm) | 2020 | 1.3 | 1.3 | 0.12 | 0/6 | 0.093 | 0/10 | 0.386 | 0/7 | 0.062 | 0/11 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| **Lead** (ppb) | 2020 | 15 | 0 | ND | 0/6 | ND | 0/10 | 4 | 0/7 | ND | 0/11 | No | Lead services lines; Corrosion of household plumbing systems including fittings and fixtures; Erosion of natural deposits |

## REGULATED SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | MCLG [MRDLG] | Hunting Hills AMOUNT DETECTED | Hunting Hills RANGE LOW-HIGH | Kenwood Beach AMOUNT DETECTED | Kenwood Beach RANGE LOW-HIGH | Lakewoood AMOUNT DETECTED | Lakewoood RANGE LOW-HIGH | Marley Run AMOUNT DETECTED | Marley Run RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Alpha Emitters** (pCi/L) | 2014 | 15 | 0 | NA | NA | NA | NA | NA | NA | NA | NA | No | Erosion of natural deposits |
| **Arsenic** (ppb) | 2020 | 10 | 0 | 9 | 6–17 | 3[1] | 3–3[1] | NA | NA | 1[1] | 0–10[1] | No | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes |
| **Barium** (ppm) | 2020 | 2 | 2 | NA | NA | NA | NA | NA | NA | NA | NA | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| **Beta/Photon Emitters**[4] (pCi/L) | 2020 | 50 | 0 | 12.4 | 12.4–12.4 | 10[3] | 10–10[3] | 7.5 | 7.5–7.5 | NA | NA | No | Decay of natural and man-made deposits |
| **Chlorine** (ppm) | 2020 | [4] | [4] | 1.5 | 1.1–1.5 | 1.5 | 1.4–1.5 | 2.1 | 1.2–2.1 | 0.9 | 0.3–0.9 | No | Water additive used to control microbes |
| **Combined Radium** (pCi/L) | 2014 | 5 | 0 | 0.4[2] | 0.4–0.4[2] | NA | NA | NA | NA | NA | NA | No | Erosion of natural deposits |
| **Ethylbenzene** (ppb) | 2017 | 700 | 700 | NA | NA | NA | NA | NA | NA | NA | NA | No | Discharge from petroleum refineries |
| **Fluoride** (ppm) | 2020 | 4 | 4 | NA | NA | 0.34[1] | 0.34–0.34[1] | 0.21[1] | 0.21–0.21[1] | 0.17[1] | 0.17–0.17[1] | No | Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories |
| **Haloacetic Acids [HAAs]** (ppb) | 2018 | 60 | NA | 2.5 | 2.5–2.5 | 9.6 | 9.6–9.6 | 4.5 | 4.5–4.5 | 3.4 | 3.4–3.4 | No | By-product of drinking water disinfection |
| **TTHMs [Total Trihalomethanes]** (ppb) | 2018 | 80 | NA | 4 | 4–4 | 28.9 | 28.9–28.9 | 3.9 | 3.9–3.9 | 2.6 | 2.6–2.6 | No | By-product of drinking water disinfection |

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

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AL | MCLG | Hunting Hills AMOUNT DETECTED (90TH %ILE) | Hunting Hills SITES ABOVE AL/TOTAL SITES | Kenwood Beach AMOUNT DETECTED (90TH %ILE) | Kenwood Beach SITES ABOVE AL/TOTAL SITES | Lakewoood AMOUNT DETECTED (90TH %ILE) | Lakewoood SITES ABOVE AL/TOTAL SITES | Marley Run AMOUNT DETECTED (90TH %ILE) | Marley Run SITES ABOVE AL/TOTAL SITES | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Copper** (ppm) | 2020 | 1.3 | 1.3 | 0.107 | 0/6 | 0.050 | 0/6 | 0.148 | 0/7 | 0.225 | 0/5 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| **Lead** (ppb) | 2020 | 15 | 0 | 1 | 0/6 | ND | 0/6 | 3 | 0/7 | ND | 0/5 | No | Lead services lines; Corrosion of household plumbing systems including fittings and fixtures; Erosion of natural deposits |

## REGULATED SUBSTANCES

| | | | | Paris Oaks | | Prince Frederick | | Shores of Calvert | | Solomons | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | MCLG [MRDLG] | AMOUNT DETECTED | RANGE LOW-HIGH | AMOUNT DETECTED | RANGE LOW-HIGH | AMOUNT DETECTED | RANGE LOW-HIGH | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
| **Alpha Emitters** (pCi/L) | 2014 | 15 | 0 | NA | NA | NA | NA | 2.7[1] | 2.7–2.7[1] | NA | NA | No | Erosion of natural deposits |
| **Arsenic** (ppb) | 2020 | 10 | 0 | 3[1] | 3–3[1] | 7 | 6–8 | NA | NA | 5[1] | 4–5[1] | No | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes |
| **Barium** (ppm) | 2020 | 2 | 2 | 0.137[1] | 0.137–0.137[1] | 0.021[1] | 0.021–0.021[1] | 0.044[1] | 0.044–0.044[1] | NA | NA | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| **Beta/Photon Emitters**[4] (pCi/L) | 2020 | 50 | 0 | 6.7[5] | 6.7–6.7[5] | 11.6 | 8–11.6 | 4.9[6] | 4.9–4.9[6] | 4.9[3] | 4.9–4.9[3] | No | Decay of natural and man-made deposits |
| **Chlorine** (ppm) | 2020 | [4] | [4] | 2.2 | 1.7–2.2 | 0.8 | 0.6–0.8 | 1.5 | 1.3–1.5 | 0.9 | 0.7–0.9 | No | Water additive used to control microbes |
| **Combined Radium** (pCi/L) | 2014 | 5 | 0 | NA | NA | 0.4[2] | 0.3–0.4[2] | 2.6[1] | 2.6–2.6[1] | 0.8[2] | 0.8–0.8[2] | No | Erosion of natural deposits |
| **Ethylbenzene** (ppb) | 2017 | 700 | 700 | NA | NA | 0.61 | 0.61–0.61 | NA | NA | NA | NA | No | Discharge from petroleum refineries |
| **Fluoride** (ppm) | 2020 | 4 | 4 | 0.25[1] | 0.25–0.25[1] | 0.24[1] | 0.24–0.24[1] | 0.25[1] | 0.25–0.25[1] | 0.36[1] | 0.35–0.36[1] | No | Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories |
| **Haloacetic Acids [HAAs]** (ppb) | 2018 | 60 | NA | 8.1 | 8.1–8.1 | 2[1] | 1.6–1.6[1] | 8.5 | 8.5–8.5 | 3[2] | 3.2–3.2[2] | No | By-product of drinking water disinfection |
| **TTHMs [Total Trihalomethanes]** (ppb) | 2018 | 80 | NA | 8.9 | 8.9–8.9 | 4[1] | 4.2–4.2[1] | 9.1 | 9.1–9.1 | 10[2] | 10.2–10.2[2] | No | By-product of drinking water disinfection |

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

| | | | | Paris Oaks | | Prince Frederick | | Shores of Calvert | | Solomons | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | AMOUNT DETECTED (90TH %ILE) | SITES ABOVE AL/TOTAL SITES | AMOUNT DETECTED (90TH %ILE) | SITES ABOVE AL/TOTAL SITES | VIOLATION | TYPICAL SOURCE |
| **Copper** (ppm) | 2020 | 1.3 | 1.3 | 0.130 | 0/5 | 0.094 | 0/22 | 0.279 | 0/5 | 0.023 | 0/24 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| **Lead** (ppb) | 2020 | 15 | 0 | ND | 0/5 | ND | 0/22 | ND | 0/5 | ND | 0/24 | No | Lead services lines; Corrosion of household plumbing systems including fittings and fixtures; Erosion of natural deposits |

## REGULATED SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | MCLG [MRDLG] | St. Leonard AMOUNT DETECTED | St. Leonard RANGE LOW-HIGH | Summit/Highland AMOUNT DETECTED | Summit/Highland RANGE LOW-HIGH | Tapestry North AMOUNT DETECTED | Tapestry North RANGE LOW-HIGH | Tara AMOUNT DETECTED | Tara RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Alpha Emitters** (pCi/L) | 2014 | 15 | 0 | NA | NA | 5.5[2] | 5.5–5.5[2] | 1.2[1] | 1.2–1.2[1] | NA | NA | No | Erosion of natural deposits |
| **Arsenic** (ppb) | 2020 | 10 | 0 | 5 | 4.4–6 | NA | NA | 4 | 4–4 | 9 | 7–11 | No | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes |
| **Barium** (ppm) | 2020 | 2 | 2 | 0.056[1] | 0.056–0.056[1] | 0.113[1] | 0.113–0.113[1] | NA | NA | NA | NA | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| **Beta/Photon Emitters**[4] (pCi/L) | 2020 | 50 | 0 | 15.9[5] | 15.9–15.9[5] | 4.6 | 4.6–4.6 | NA | NA | NA | NA | No | Decay of natural and man-made deposits |
| **Chlorine** (ppm) | 2020 | [4] | [4] | 1.2 | 0.9–1.2 | 2.1 | 1.4–2.1 | 1.3 | 1.1–1.3 | 1.4 | 1.2–1.4 | No | Water additive used to control microbes |
| **Combined Radium** (pCi/L) | 2014 | 5 | 0 | NA | NA | 1.0[2] | 1.0 – 1.0[2] | 1.2[1] | 1.2–1.2[1] | NA | NA | No | Erosion of natural deposits |
| **Ethylbenzene** (ppb) | 2017 | 700 | 700 | NA | NA | NA | NA | NA | NA | NA | NA | No | Discharge from petroleum refineries |
| **Fluoride** (ppm) | 2020 | 4 | 4 | 0.27[1] | 0.27–0.27[1] | 0.36[1] | 0.36–0.36[1] | 0.2[3] | 0.2–0.2[3] | NA | NA | No | Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories |
| **Haloacetic Acids [HAAs]** (ppb) | 2018 | 60 | NA | 5 | 5–5 | 10[2] | 10.4–10.4[2] | 2.3 | 2.3–2.3 | 5.1 | 5.1–5.1 | No | By-product of drinking water disinfection |
| **TTHMs [Total Trihalomethanes]** (ppb) | 2018 | 80 | NA | 12.1 | 12.1–12.1 | 5[2] | 5.3–5.3[2] | 0.9 | 0.9–0.9 | 2.5 | 2.5–2.5 | No | By-product of drinking water disinfection |

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

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AL | MCLG | St. Leonard AMOUNT DETECTED (90TH %ILE) | St. Leonard SITES ABOVE AL/TOTAL SITES | Summit/Highland AMOUNT DETECTED (90TH %ILE) | Summit/Highland SITES ABOVE AL/TOTAL SITES | Tapestry North AMOUNT DETECTED (90TH %ILE) | Tapestry North SITES ABOVE AL/TOTAL SITES | Tara AMOUNT DETECTED (90TH %ILE) | Tara SITES ABOVE AL/TOTAL SITES | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Copper** (ppm) | 2020 | 1.3 | 1.3 | 0.054 | 0/5 | 0.260 | 0/11 | 0.055 | 0/8 | 0.231 | 0/5 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| **Lead** (ppb) | 2020 | 15 | 0 | ND | 0/5 | ND | 0/11 | 2 | 0/8 | ND | 0/5 | No | Lead services lines; Corrosion of household plumbing systems including fittings and fixtures; Erosion of natural deposits |

## REGULATED SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | MCLG [MRDLG] | Walnut Creek AMOUNT DETECTED | Walnut Creek RANGE LOW-HIGH | White Sands AMOUNT DETECTED | White Sands RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|---|---|
| **Alpha Emitters** (pCi/L) | 2014 | 15 | 0 | NA | NA | NA | NA | No | Erosion of natural deposits |
| **Arsenic** (ppb) | 2020 | 10 | 0 | 7 | 5.6–8 | 5[1] | 0–5[1] | No | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes |
| **Barium** (ppm) | 2020 | 2 | 2 | NA | NA | NA | NA | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| **Beta/Photon Emitters**[4] (pCi/L) | 2020 | 50 | 0 | NA | NA | 13.4 | 13.4–13.4 | No | Decay of natural and man-made deposits |
| **Chlorine** (ppm) | 2020 | [4] | [4] | 1.4 | 1.1–1.4 | 1.1 | 1–1.1 | No | Water additive used to control microbes |
| **Combined Radium** (pCi/L) | 2014 | 5 | 0 | 0.1[2] | 0.1–0.1[2] | 1.1[2] | 1.1–1.1[2] | No | Erosion of natural deposits |
| **Ethylbenzene** (ppb) | 2017 | 700 | 700 | NA | NA | NA | NA | No | Discharge from petroleum refineries |
| **Fluoride** (ppm) | 2020 | 4 | 4 | 0.2[1] | 0.2–0.2[1] | 0.3[1] | 0.3–0.3[1] | No | Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories |
| **Haloacetic Acids [HAAs]** (ppb) | 2018 | 60 | NA | 4 | 4–4 | NA | NA | No | By-product of drinking water disinfection |
| **TTHMs [Total Trihalomethanes]** (ppb) | 2018 | 80 | NA | 4.6 | 4.6–4.6 | NA | NA | No | By-product of drinking water disinfection |

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

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AL | MCLG | Walnut Creek AMOUNT DETECTED (90TH %ILE) | Walnut Creek SITES ABOVE AL/TOTAL SITES | White Sands AMOUNT DETECTED (90TH %ILE) | White Sands SITES ABOVE AL/ TOTAL SITES | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|---|---|
| **Copper** (ppm) | 2020 | 1.3 | 1.3 | 0.103 | 0/5 | 0.153 | 0/7 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| **Lead** (ppb) | 2020 | 15 | 0 | ND | 0/5 | 29 | 2/7 | No | Lead services lines; Corrosion of household plumbing systems including fittings and fixtures; Erosion of natural deposits |

[1] Sampled in 2019.
[2] Sampled in 2020.
[3] Sampled in 2018.
[4] The MCL for beta particles is 4 mrem/year. The U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.
[5] Sampled in 2015.
[6] Sampled in 2016.
[7] Sampled in 2017.