Cistern Water Test Results and Recommendations

Date of sample collection: --/--/202-

Sample / Demo Report

Below are the results of the contaminant testing conducted on your cistern water, along with important information about the contaminants tested and recommendations for maintaining safe water quality.
Water sample collection was conducted under the guidance and training of Dr. Bernard F. Castillo, II, Associate Professor of Chemistry at the University of the Virgin Islands (UVI).
Water samples were collected following procedures established by Eurofins, the certified laboratory responsible for conducting the contaminant testing.

Contaminant Tested	**Your Results (mg/L)**	EPA MCL (mg/L)	EPA MCLG (mg/L)
VOCs	**undetected**	varies	varies
Copper	**undetected**	1.3	1.3
Lead	**undetected**	0.01	0

All contaminant testing conducted on your water sample came back below the EPA's National Primary Drinking Water Regulations.

No treatment is recommend.

Please see below for additional information.

‘Undetected’: When labs test for chemicals they have a minimum level they can reliably detect. If the amount of contaminant in your water is below this level, the lab can’t measure it accurately, so they mark it as “undetected.”
This doesn’t mean there’s zero contaminant—it just means the amount is too small for the lab to detect with confidence.
All of EuroFin’s minimum levels are below the EPA MCL and MCLG levels.

EPA MCL: **Maximum Contaminant Level** is the legal limit for how much of a contaminant is allowed in drinking water. It’s set as close to the safe goal (MCLG) as possible, using the best available technology and considering cost. MCLs are enforceable by law.*
see ‘Why Regular Testing Matters**’ section below.*

EPA MCLG: Maximum Contaminant Level Goal is the highest level of a contaminant in drinking water that is considered safe. It includes a safety margin to protect health and is a goal for water quality, not a legally enforced limit.

mg/L (milligrams per liter): A measure of concentration by weight per unit volume.

Volatile Organic Compounds (VOCs)

About VOCs: Volatile Organic Compounds (VOCs) are chemicals that easily evaporate into the air. They are often found in water supplies near industrial areas, such as gas stations or dry cleaners. VOCs can enter the environment through industrial spills, leaks, or improper disposal of household products containing these chemicals.

- **Health Risks:**
  - All VOCs can irritate the skin and mucous membranes if inhaled.
  - Some VOCs, such as benzene, PCE, and TCE, may increase cancer risk if ingested or inhaled in large amounts over time. High levels can also harm the nervous system, immune system, kidneys, and liver. Children are particularly vulnerable due to their developing bodies.
- **EPA Standards:** The Environmental Protection Agency (EPA) has established safe drinking water standards. These standards are listed under “*Organic Chemicals, except for PFAS*” on EPA’s National Primary Drinking Water Regulations
- **Important Notes:**
  - UV filters **do not** remove VOCs.
  - Boiling water **does not** remove VOCs.
  - Activated carbon filtration and Reverse osmosis (RO) are the most commonly suggested treatments to remove VOCs from water.
- Learn more about VOCs in drinking water :
  - EPA: What Are VOCs?
  - USGS: VOCs in Drinking Water

Sample / Demo Report

Copper

About Copper: Copper is a naturally occurring metal found in rocks, soil, and water. It often enters drinking water through the corrosion of household plumbing, pipes, and fixtures. The amount of copper in your water depends on factors like water acidity, temperature, and the type of plumbing materials used.

- **Health Risks:** While small amounts of copper are essential for health, excessive exposure can cause nausea, vomiting, abdominal pain, and diarrhea. Long-term exposure to high levels may lead to kidney and liver damage.
- **EPA Standards:** MCL and MCGL of 1.3 mg/L (EPA's National Primary Drinking Water Regulations)
- **Important Notes:**
  - Boiling water **does not** remove copper.
  - UV filters **do not** remove copper.
  - Reverse osmosis systems are the most commonly suggested treatment for reducing copper levels.
- Learn more about copper in drinking water:
  - NSF: Copper in Drinking Water
  - EPA: Copper Standards

Lead

About Lead: Lead is a toxic metal that can enter drinking water through the corrosion of older plumbing materials, especially in homes built before 1986.

- **Health Risks:** Lead is persistent, and it can bioaccumulate in the body over time.
  - Children: Low levels of lead exposure can cause learning disabilities, behavioral problems, lower IQ, and slowed growth.
  - Pregnant Women: Lead can cross the placental barrier, potentially harming fetal development and causing premature birth. Lead can also be shared with children, via breastfeeding.
  - Adults: Long-term exposure can lead to cardiovascular issues, kidney damage, and reproductive problems.
- **EPA Standards:** MCL 0.010 mg/L and MCGL 0 mg/L (EPA's National Primary Drinking Water Regulations)
- **Important Notes:**
  - Boiling water **does not** remove lead.
  - UV filters **do not** remove lead.
  - Reverse osmosis systems are the most commonly suggested treatment for removing lead from water.
- Learn more about lead in drinking water:
  - NSF: Lead in Drinking Water
  - EPA: Lead in Drinking Water

Sample / Demo Report

Sample / Demo Report

Additional Resources

- **Cistern Maintenance Workshops:** Recently, the EPA and DPNR hosted workshops on cistern maintenance in the USVI. Once materials from these workshops are available, we will share them on our website.
- **DPNR published Your Health and Cisterns** — A USVI Comprehensive Guide in January 2024. An EPA informed guide on Cistern Water and Your Health. "In the US, the Center for Disease Control and Prevention (CDC) as well as the Virgin Islands Department of Health (VIDOH) are responsible for providing guidance on cistern use to protect public health. This brochure consolidates helpful information for the US Virgin Islands (USVI) population that relies on rainwater harvesting."
- **NSF Certification:** When purchasing water filtration systems, look for NSF-certified products to ensure they meet rigorous safety and performance standards. Learn more: NSF Certification.
- **CDC Water Filtration Guide:** The CDC provides a helpful resource for choosing the right water filtration system for your needs: CDC Water Filtration Guide.

Why Regular Testing Matters

Since **the EPA does not regulate privately owned cisterns, it's crucial for community members to regularly test their water**, maintain their cisterns, and implement appropriate treatments to ensure safe drinking water. (source)

Thank you for participating in this community-based water testing initiative! Your contribution is vital to the Terra AyAy Project's Community-Based Citizen Science campaign, empowering residents to monitor and protect local water resources. By analyzing your data, we can identify issues, track pollution, and advocate for policies that safeguard water quality. Sharing the processes of sample collection and testing also lays the groundwork for other community members to understand that the power to test their water is in their hands. All shared data will be de-identified to protect your privacy, ensuring no personal information is linked to the results. Stay tuned to our website for updates and insights. Together, we're building a stronger, more informed community—thank you for helping protect Saint Croix community's access to clean water!

Visit us: Terra AyAy Project

Contact Information

- **VIDOH Hotline:** For questions about lead in drinking water or to schedule lead testing, call 340-712-6299 or 340-776-1519 (Monday–Friday, 8 a.m.–5 p.m.).
- **EPA Safe Drinking Water Hotline:** Call 800-426-4791 for general drinking water inquiries.
- **EPA Community Right-to-Know Hotline:** Call 800-424-9346 for information on chemical use and releases in your area.

Terminology Key

Mucous membranes: Moist linings in the body (e.g., nose, mouth) that protect against external contaminants.

Bioaccumulate: The buildup of substances in an organism over time. Bioaccumulation happens when a living thing takes in a substance faster than its body can break it down or remove it.

List of Sources

Volatile Organic Compounds (VOCs):

Oregon Health Authority - VOC Filtration

Action Water District

Copper in Drinking Water:

WA.gov: Copper in Drinking Water

Mass.gov: Copper and Your Health

CDC: ToxFAQs for Copper

Lead in Drinking Water:

Learn about Lead | EPA

Basic Information about Lead in Drinking Water | EPA

Secondary Drinking Water Standards: Guidance for Nuisance Chemicals | EPA

Lead FAQ | EPA

EPA U.S. Virgin Islands Drinking Water Page

Water Filtration and Treatment:

NSF Certification

CDC Water Filtration Guide

General EPA Resources:

EPA Safe Drinking Water Hotline

Community Right-to-Know Hotline

web
terra-ayay-project.org

email
terraayay@gmail.com

Terra Ay Ay is administered by St. Croix Environmental Association, Crucian Heritage and Nature Tourism, and Virgin Islands Good Food. This project has been funded wholly or in part by the U.S. Environmental Protection Agency under assistance agreement 96241922 to St. Croix Foundation. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does the EPA endorse trade names or recommend the use of commercial products mentioned in this document.