

Lead and Copper in St. Croix, USVI Drinking Water

- The Virgin Islands Water and Power Authority (VIWAPA¹) provides drinking water to approximately 13,000 people on the island of St. Croix, with a population of approximately 41,000 (2020 census).
- In August 2023, VIWAPA-St. Croix's potable water was impacted by sargassum (discoloration/odor).
- Following renewed/continuing complaints from VIWAPA-St. Croix customers about red/brown water, VIWAPA, VIDPNR, UVI, and EPA Region 2 developed a sampling-monitoring plan to assess the water quality of public drinking water in St. Croix and to determine the cause and content of the water discoloration.
- Monitoring Plan – Locations: The final monitoring plan included sampling at 66 locations throughout the VIWAPA distribution system and included areas where water quality concerns are prevalent based on historical data, and customer complaints of “red water” issues. The locations focused on distribution water meter connections to homes throughout St. Croix.
 - Distribution water meters are located at the property boundary, typically near the road. The location that homeowners tap into the meter varies across the island. Most users use cistern water.
- Monitoring Plan – Implementation: Sampling at the 66 locations occurred between Thursday, September 28 – Friday, September 29, 2023.

Monitoring Plan – Analysis: The plan included analysis for Bacteria, secondary DW analytes, and primary DW metals. UVI conducted the microbiological analysis, VIWAPA conducted the secondary DW analysis (pH, conductivity, turbidity, chlorine residual, and Iron) and microbiological analysis, and the EPA Region 2 Laboratory conducted the Primary DW Metals' analysis.

- Primary DW Metals' analysis: The EPA Region 2 Laboratory received the samples for Primary DW Metals' on 10/4/23 and issued a final report by 10/12/23. The reports are attached in this release and include a hard copy version (.pdf) and a customized electronic Summary Report (.xls).
- Of the 66 sampling locations, a total of 117 samples were collected.
 - 41 locations were collected in pairs, generally labeled “A and “B”, with the first sample within one minute followed by a second sample after a 3- to 5-minute flush.
 - 25 locations were collected as “first draw” within one minute.
 - 8 samples collected as “bottle” blanks using laboratory reagent grade water.
- Lead: Of the 66 sampling locations, 35 of the first samples exceeded EPA's 15 ppb Lead Action Level. Results for Lead ranged between 16 ppb and 20,000 ppb. For the second samples, after flushing the water for 3-5 minutes, the levels fell to below the Lead Action level for all but two sample locations.
- Copper: Of the 66 sampling locations, 15 of the first samples exceeded EPA's 1300 ppb Copper Action Level. Results for Copper ranged between 1320 and 137,000 ppb. For the second samples, after flushing the water for 3-5 minutes, the levels fell to below the Copper Action level for all locations.
- VIWAPA-St. Croix and VIDPNR believe the high lead levels may be impacted by stagnant water combined with aging infrastructure. While the source of the Lead has not been identified, there may be leaded solder and/or lead joints in the distribution system or at the meter, where some of the samples were taken, and in some cases water from VIWAPA may not have been used by a resident(s) in several months. There may also be brass couplings connecting copper lines and other brass plumbing in the distribution system.
- VIWAPA-St. Croix issued a [press statement](#), on October 14, 2023, notifying the public about the elevated lead and copper levels detected from the sampling effort.
- Region 2 is actively working to provide technical assistance to the USVI regarding communication, outreach, funding and additional sampling and analysis to assess the extent and cause of the lead and copper levels.