



USVI – St. Croix Drinking Water Study Sampling and Data Summary EPA Region 2, Laboratory Services and Applied Science Division

Updated: October 24, 2023

- The Virgin Islands Water and Power Authority (VIWAPA) provides drinking water to approximately 55-60% of the 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 complaints from VIWAPA-St. Croix customers about red/brown water, VIWAPA, VIDPNR, UVI, and EPA Region 2 developed a sampling plan to assess the water quality of public drinking water in St. Croix and to determine the cause and content of the water discoloration.
- Sampling Plan – Locations: The final sampling 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 primarily 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.
- Sampling Plan – Implementation: Sampling at the 66 locations occurred between Thursday, September 28 – Friday, September 29, 2023.
- Sampling 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.
- 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.

- EPA, VIDPNR and VIWAPA are putting together a plan to conduct sequential sampling at homes with elevated lead levels to identify the source of lead. For example, brass valves in the distribution, or brass components in the distribution meters, may be sources of lead.
- EPA agrees with the USVI's assessment that the issue is likely not originating from VIWAPA's water treatment plant and that the water VIWAPA produces is not likely a source of the elevated lead and copper levels. More data should be available soon to help us make a determination. EPA is strongly recommending that people on St. Croix not consume VIWAPA water from the distribution system -- whether the water is piped from the distribution system to a household cistern or piped directly from the distribution system to a household tap – until more information is gathered on the root cause of the lead.
- EPA is actively working with the USVI government on follow up sampling, including specialized sampling, called “sequential sampling,” that will help find the root cause of the original elevated lead and copper levels.

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