



*Queen
Anne's
County*

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SANITARY DISTRICT**

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Notice

**Queen Anne's County Sanitary District
Copper Pipe Pinhole Leak Investigation
March 1, 2021**

This past fall the County learned that several homes in the Bay City community developed pinhole leaks in their copper plumbing. At first, this was not considered an unusual occurrence, as pinhole leaks are a normal mode of failure in aging copper pipe. The situation soon developed into a more unique event due to several factors. First, there were several homes that reported this problem around the same time. Second, the affected homes were in a concentrated area within a community. Third, the reports were in homes of varying ages. Additionally, the County began to receive additional reports of pinhole leakage from the Anchorage Community on Thompson Creek Road.

The County initiated an investigation studying the pinholes to look for causes and possible remedies. Samples of copper pipes were collected from various homes. County representatives spoke with residents experiencing the problem and interviewed local plumbers who had been engaged in repairing the leaks. In addition, water samples throughout the County's water service area were collected and tested by an independent third-party. This testing was in addition to the routine testing performed by the County to ensure that the water supplied is potable (meaning safe to drink) in accordance with various federal and state laws, including the Safe Drinking Water Act (originally passed by Congress in 1974, with amendments added in 1986 and 1996) and the EPA's Lead and Copper Rule. This round of testing, as with the County's routine testing, confirmed that the County's water supply had been, and continues to be, safe for human consumption.

During the investigation, the County received questions about the chlorine levels of the County's water. Chlorine—like water—is corrosive to metal, but it is also a required disinfectant. All jurisdictions that provide public water are required to provide a disinfectant to the water. The disinfectant must be maintained at minimum levels throughout the entire distribution system, often miles away from the treatment plant. This means chlorine levels might be higher closer to the distribution source, so that it does not become so diluted as to render it ineffective at the farther ends of the distribution system. By regulation, the chlorine levels should be at least 0.5 parts per million at the farthest point and should not exceed 4.0 parts per million anywhere in the distribution system. In this instance, the water testing demonstrated that the County's water supply was well within these boundaries. Tests taken on January 5, 2021 in the Bay City area showed average chlorine levels of 1.0 parts per million.



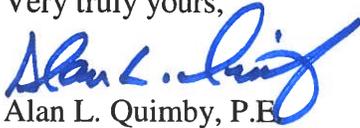
The County spoke with its chemical suppliers and other regional public water providers to inquire about similar experiences with copper pipes and to gather advice. Other jurisdictions have reported that increasing the supply of a chemical known as orthophosphate seems to reduce the prevalence of pinhole leaks and orthophosphate is a chemical that the County already adds to its water supply. In fact, the County has been adding this chemical since 1996 without having any issues staying below the copper action level which indicates copper is not a problem for safe drinking water (lead has always been 'non-detect'). Orthophosphate is a chemical that creates a coating on the inside of pipes to retard lead and copper from leaching into the drinking water. After consultation, it was determined that the County could safely increase the level of orthophosphate as a prophylactic measure while maintaining safe drinking water. That has now occurred. As other jurisdictions have reported, a beneficial result from increasing orthophosphate, the County is optimistic that this increase may improve the longevity of existing copper pipes.

The County's investigation has not ended with this action. We have engaged a materials testing lab to further evaluate the samples of pipe collected. The purpose is to determine if there is a common failure mode of the pinhole leak condition. The pipe testing is not completed and the consultant expects it will be at least another month before analysis and results are reported back to the County.

What can residents do? If you do not have copper pipe, you will not experience a manifestation of these pinhole leaks. If you do have copper pipes and have experienced pinhole leaks in the last 6 months, please e-mail aquimby@qac.org with details of your experience. Please make sure to include your address and approximately when the pinhole leak(s) developed. The information you provide may help with the County's investigation. If you have copper pipes and have not experienced pinholes leaks, you may not ever encounter the issue, but you should remain vigilant.

Some residents have asked if the County will pay for the repairs or replacement of copper pipes that have experienced pinhole leaks. At this stage of the investigation, there is nothing to suggest the County is at fault for the pinhole leaks. As a supplier of water, the County's obligation under the law is to provide potable (again, safe to drink) water. Based on the water testing and investigation to date, the County has fulfilled this obligation. You can be confident if the County can take additional reasonable initiatives to reduce the risk of pinholes leaks, like increasing orthophosphate, it will take those actions. The County will also keep you apprised of significant developments in regard.

Very truly yours,



Alan L. Quimby, P.E.
Chief Sanitary Engineer