

# Electro Scan Surpasses 10,000 SWORDFISH Surveys Confirming the Possibility of Finding Lead in Copper & Plastic Pipes

*SWORDFISH Confirms 2023 Study Showing Lead Can Routinely Accumulate in Copper & Plastic Pipes Raising Concern Over Using Historical Records Without Verification*

SACRAMENTO, CA, UNITED STATES, March 4, 2025 /EINPresswire.com/ -- [Electro Scan Inc.](#) announced today that it has surpassed 10,000 SWORDFISH surveys, including results showing a growing number of copper and plastic pipes testing positive for lead.

The company's findings confirm a [2023 research study](#) that shows that lead particles routinely accumulate on copper & plastic pipes – the same result found with galvanized requiring replacement (GRR) pipes.



Electro Scan Inc. SWORDFISH confirms 2023 study that copper & plastic pipes may test positive for lead due to lead accumulation.

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What surprised us was finding out that plastic and copper pipes can test positive for lead, based on lead accumulations from biofilms and calcium deposits.”

*Mike App, Executive Vice President, Electro Scan Inc.*

“Our two-step approach of [1] using electrical resistance testing to confirm galvanized pipes and [2] lead testing swabs of our probes, has become an industry 'best practice' for finding and confirming galvanized requiring replacement (GRR) pipes,” states Chuck Hansen, Chairman and Founder, Electro Scan Inc.

“What surprised us was finding out that plastic and copper pipes can test positive for lead, based on lead accumulations from biofilms and calcium deposits,” states Mike App, Executive Vice President, Electro Scan Inc.

The new findings have little to no effect on water utilities that have never used lead water service lines, but may have a significant impact on where lead was previously used to carry drinking water to businesses and homes.

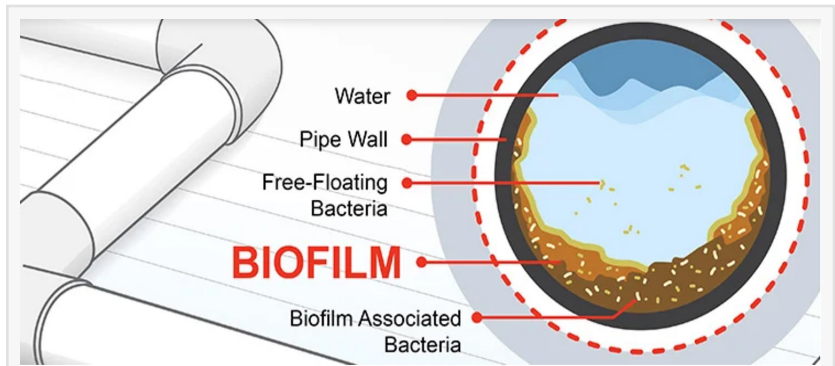
While the EPA has previously stated there are over 9 million lead pipes still in use in the United States, Electro Scan has estimated up to 20 million affected utility-owned and privately-owned water services that may need replacement.

Previous research on lead pipes mainly focused on quantifying lead dissolution and release in metallic pipe surfaces, including galvanized pipes, rather than polymers or plastic pipes.

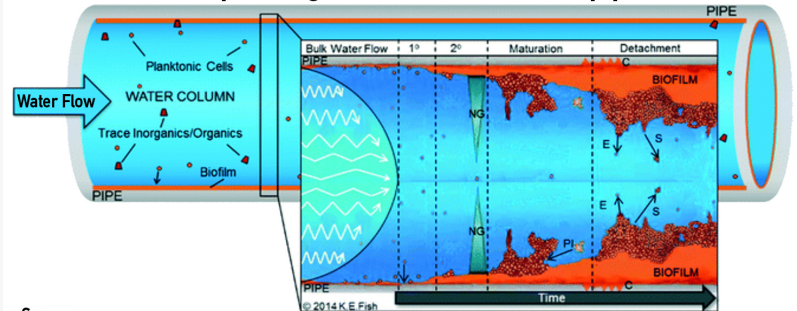
Nevertheless, a 2023 study demonstrated that lead can also accumulate on the surface of copper and plastic pipes, releasing lead directly into home tap water, confirming findings by Electro Scan SWORDFISH field testing.

The 2023 study entitled 'Effects of Water Chemistry and Flow on Lead Release from Plastic Pipes Versus Copper Pipes, Implications for Plumbing Decontamination' (Ghoochani, Hadiuzzaman, Brown, and Salehi), examined water pH and flow conditions on the release of lead (Pb) from new and biofilm-laden potable water pipes.

Assessing polyethylene (PEX-A), high-density polyethylene (HDPE), and copper pipes, the study showed the same lead uptake, compared to galvanized pipe.

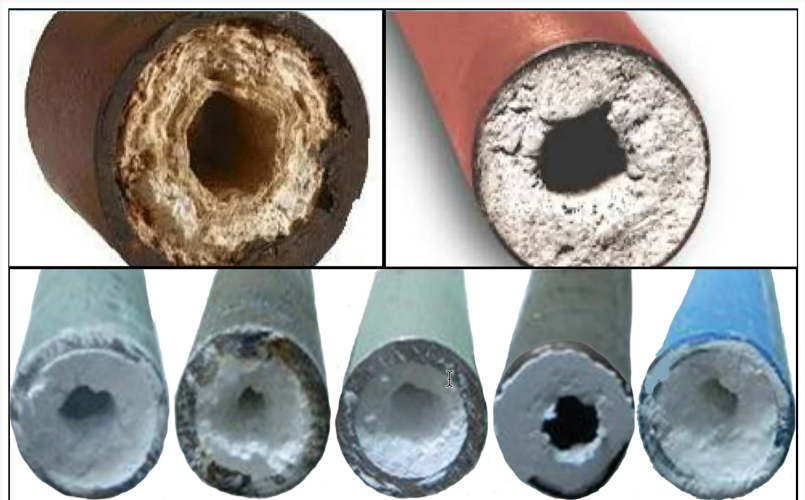


**Biofilm development within drinking water distribution systems incorporating water flow within the pipe.**



Source: Characterising and understanding the impact of microbial biofilms and the extracellular polymeric substance (EPS) matrix in drinking water distribution systems, Katherine E. Fish, A. Mark Osborn and Joby Boxall.

2023 academic research confirms that polyethylene (PEX-A), high-density polyethylene (HDPE), and copper pipes may accumulate lead at similar levels compared to galvanized pipes.



Calcium deposits create a layer that can trap lead particles and under certain water conditions becomes compromised to release lead into drinking water.

While historical records may accurately record installed pipe materials, lead accumulation on copper and plastic pipes requires immediate remediation, including flushing, cleaning, or replacement.

Biofilm is defined as the layer of microorganisms that build up on surfaces in contact with water causing problems in pipes. Now, water utilities must understand that biofilm, including calcium deposits, can collect heavy metals, such as lead, which can then be slowly released into drinking water over time.

Electro Scan Inc. is currently assessing 10,000 homes for the [City of Baltimore Department of Public Works, Maryland](#). as part of a \$7.6 million project, and recently became the preferred technology to assess water service at Pittsburgh Water, Pennsylvania.

In December 2024, the EPA recognized 'electrical resistance testing' as the only commercially available innovative technology capable of finding buried lead pipe.

Prior to the release of Electro Scan's SWORDFISH buried lead detection solution, water utilities were limited to digging, excavating, or potholing surface covers surrounding water service lines to locate and visually inspect pipe exteriors; a process now proven ineffective to accurately assess full-length pipelines or determine whether copper, plastic, or galvanized pipes have accumulated sufficient amounts of lead to create a threat to public health or endanger water quality.

A list of cities using lead pipes in 1900 were featured in the book, The Great Lead Water Pipe Disaster By Werner Troesken (2005), Link: <https://bit.ly/citieswithleadin1900>.

#### ABOUT ELECTRO SCAN INC.

Founded in 2011, Electro Scan is an international supplier of machine-intelligent pipeline assessment and quality assurance products & services for the water, sewer, and oil & gas markets. The company develops and markets proprietary equipment and SaaS-based cloud applications that automatically locates, measures, and reports pipeline leaks and water service line pipe materials, including lead pipes. The company's products and services detect buried lead water services, typically not found by legacy inspection methods.

#### FOR MORE INFORMATION

EPA's Lead and Copper Rule Revisions (2021)

<https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule>

EPA's Lead and Copper Rule Improvements (2024)

<https://www.epa.gov/ground-water-and-drinking-water/lead-and-copper-rule-improvements>

Electro Scan's SWORDFISH

<https://www.electroscan.com/contact-us/>

Electro Scan Lead Webinar, November 12, 2024, Slide Stack (11mb)

[https://www.electroscan.com/wp-content/uploads/2024/11/2024-11-12\\_Electro-Scan-LCRI-Webinar\\_AS-PRESENTED.pdf](https://www.electroscan.com/wp-content/uploads/2024/11/2024-11-12_Electro-Scan-LCRI-Webinar_AS-PRESENTED.pdf)

Electro Scan Interview on Fox 40, Studi40 Live, YouTube Video (Duration: 5 minutes)

<https://www.youtube.com/watch?v=quumUwyFlyM>

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