

# Electro Scan Finds Defective Cured-In-Place Pipe (CIPP) Under Landfill That May Leak Harmful Leachate Into Groundwater

*Landfill Owners and Operators Urged to Inspect New & Old Leachate Pipes Using Electro Scan FELL Technology Before New Rules Take Effect*

SACRAMENTO, CALIFORNIA, USA,  
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EINPresswire.com/ -- [Electro Scan Inc.](#), the world's leading provider of machine-intelligent pipeline leak detection and condition assessment technology for both wastewater & clean water pipes, has found significant defects in recently installed landfill leachate collection pipes. Such pipe conditions can allow harmful leachate to reach groundwater aquifers.



According to the Environmental Protection Agency, the U.S. currently has over 3,000 active landfills and over 10,000 old municipal solid waste (MSW) landfills.

The landfill operator noted lower-than-expected leachate flow levels, prompting concerns about the collection pipe conditions.

The pipe was subsequently relined with a [Cured-In-Place Pipe \(CIPP\)](#) liner, although leachate flow rates continued to drop.

High resolution closed-circuit television (CCTV) cameras were unable to determine pipe leak locations or severities.

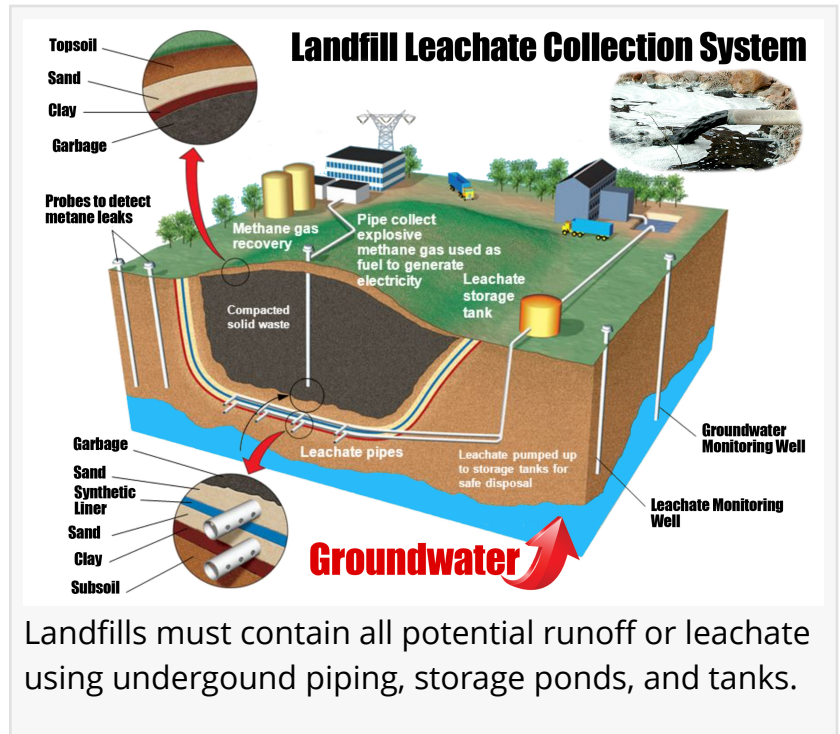
Leachate forms when naturally occurring precipitation flows through municipal solid waste (MSW) and is normally collected in a pipe network and then directed to a storage system for onsite treatment or offsite transport & treatment.

Leachate escaping from the collection pipes or storage units can contaminate shallow groundwater aquifers or nearby surface water bodies, causing harm to human health and the

environment.

According to the US Environmental Protection Agency, the US has 3,091 active landfills and over 10,000 old municipal landfills. The US is also home to two of the top ten largest landfills in the world, including the world's largest landfill located in Las Vegas, Nevada (2,200 acres) and the fifth largest landfill located in Puente Hills, California (630 acres).

According to the European Enhanced Landfill Mining Consortium (EURELCO), Europe has more than 500,000 landfills.



Before a 2001 European Union directive, there were few restrictions on what could be put in landfills with people often burying hazardous waste and pollutants.

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Landfill owners & operators are encouraged to conduct leachate pipe assessments using Electro Scan technology to accurately test for watertightness & ensure compliance with environmental regulations.”

*Chuck Hansen, CEO & Founder, Electro Scan Inc.*

"Landfill owners & operators are encouraged to conduct leachate pipe assessments using Electro Scan technology to accurately test for watertightness & ensure compliance with environmental regulations," stated Chuck Hansen, CEO & Founder, Electro Scan Inc.

Pipeline owners were previously without the ability to test pipeline watertightness, including CIPP liners, until Electro Scan's machine-intelligent Focused Electrode Leak Location (FELL) technology was introduced in 2011.

The Electro Scan FELL technology is able to test most full-length 360 degree pipes from 2 inches to 74 inches (50mm to 2000mm) in diameter, across most pipe materials, with results available in minutes.

Both pressurized and gravity pipelines can be inspected with FELL, which uses low-voltage, high frequency electric current to precisely locate defective joints, customer connections, cracks, and other features that cause a pipe to leak.

The technology's principle of operation is based on its ability to measure electric current released from the FELL probe – from inside the pipe – and escaping through a defect.

Once electric current exits the pipe through a defect it will complete a circuit to the FELL grounding station where its intensity and duration are measured.

The resulting data locates the pipe defect to within 1 cm and provides an estimated water leakage rate that is reported in Gallons per Minute or Liters per Second.

Earlier this month, Electro Scan completed a project in the Southeast US for a large water utility and discovered that newly-installed CIPP actually leaked more than 50-year old unlined Vitrified Clay Pipe (VCP).

The majority of leakage occurred at reinstated customer tap connections on the sewer main. In all cases, leaking tap connections were approved by certified CCTV operators resulting in the utility owner paying for rehabilitation that actually worsened the pipe conditions.

In another case from early this year, a Midwestern US wastewater utility completed a benchmark gravity sewer assessment of over 74,000 linear feet that compared CCTV and FELL inspection results, including assessment of over 1,800 customer tap connections.

In that study, CCTV & FELL surveys were completed by the same independent contractor.

CCTV results indicated 81% of all customer taps were not leaking, while FELL technology's machine-intelligent results specifically identified that over 50% of all customer taps had measurable leaks.

"Cured-In-Place Pipe is an important rehabilitation method," stated Michael Condran, PE, Vice President, Electro Scan Inc., "However, unless liners are tested in accordance with ASTM F2550

**• Sewer Mains**  
**• Stormwater Pipes**  
**• Pressurized Water**  
**• Force Mains**  
**• Trenchless Repairs & Rehabilitation**

**Leakage in Gallons Per Minute**

Distance

electro<sup>scan</sup>

**"If a Pipe Leaks Electricity, It Leaks Water (and Leachate), too!"**

Electro Scan machine-intelligent technology provides accurate & unbiased leak locations and severities, without bypass pumping or service interruption.

**NO LEAK**

**LEAK**

Recent Trenchless rehabilitation using Cured-In-Place Pipe (CIPP) felt-based steam-cured liner shows numerous failures measured by Electro Scan.



[for sewers] or AWWA M77 [for potable water], owners will not definitively know if a pipe is watertight or that customer re-connections were correctly restored."

Working throughout the COVID-19 pandemic with revenues already surpassing prior year results, Electro Scan Inc. offers professional services on a worldwide basis; either directly by its own field staff or through its network of authorized contractors utilizing equipment from its [product catalog](#).



Electro Scan Inc. was named to the prestigious GovTech100 list in 2020 for a second consecutive year.

Confidential pipe surveys performed by Electro Scan for investor-owned or privately-owned landfill operators are not subject to Freedom of Information Act (FOIA) requests.

#### ABOUT ELECTRO SCAN INC.

Headquartered in Sacramento, Calif., the company designs, develops, and markets proprietary pipe condition assessment equipment, delivers field services, and offers cloud-based data processing and reporting applications that automatically locate, measure, and report defects typically not found using legacy inspection methods. In 2020, the company was named to Government Technology's esteemed GovTech 100 list for the second year in row. Electro Scan field crews and its authorized partners have been designated 'essential workers' adopting Coronavirus Health & Safety Standards, including appropriate use of Personal Protective Equipment (PPE) and Social Distancing standards, in accordance with state mandates and CDC recommendations. Electro Scan is Safe Contractor Approved.

#ai #askchuck #astmf2550 #awwam77 #cctv #cipp #cleantech #digitaltwin #earth911  
#electroscan #esg #eurelco #fell #greenwaste #iswa #landfill #leachate #leakage  
#machinelearning #msw #municipalsolidwaste #mwma #recycle #smartcity #swan #swana  
#trenchless #vcp #waste360 #wastemanagement

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