

What would you do if you discovered underground water leaks were costing you \$8,000 per month?



**Image Description:** Underground water leaks can cost time, money, and risk the safety of you and your team if not proactively addressed.

Industrial machinery manufacturing company, [Mersen](#), came face to face with this reality as GPRS' Leak Detection Project Manager, Rick Blackburn accurately mapped out and pinpointed underground leaks in their plant's pressurized water system with the [DXMIC PRO](#) & [FCS Leak Correlator](#), provided to them by [540 technologies](#).

When it comes to managing industrial facilities, unseen leaks can trigger waves of lost resources and skyrocketing utility bills. For Mersen's plant in Tennessee, the advanced [acoustic leak detection services](#) of GPRS offered a solution to their persistent problem with precision by pairing the trained ear of Blackburn with the industry's lead leak detection equipment by FCS.

Blackburn, a GPRS SIM-certified Project Manager, showcased how the power of multiple forms of technology – when enhanced by the diligence and methodology of a GPRS Project Manager - can result in an enormous save for the facility in which work is being conducted. His story isn't just about preventing water waste; it's a testimony to the synergy between expertise and technology in preserving the planet's precious resources.

## The Mission

Beneath the busy operations of the Mersen plant, that specializes in manufacturing carbon blocks, layed a network of pressurized underground water lines. Tasked with a critical mission, Blackburn began an underground leak detection survey to uncover potential water leaks within a 200-foot perimeter of the fire loop and domestic water systems. The company required this work to be completed prior to pouring a new concrete pad on the property in preparation for new building construction.

## The Process: Locate the Lines

Before locating any leaks, Blackburn first used [ground penetrating radar \(GPR\)](#) to [locate the buried water lines](#) in the scope of work, marking them on the surface and uploading the data into GPRS' [water utility mapping software, SiteMap® \(patent pending\)](#). Once every line had been accurately located and marked, Blackburn, equipped with an FCS leak correlator and DXMic Pro by [Fluid Conservation Systems](#), began to conduct an initial leak survey. Throughout the initial investigation of the subsurface water lines in the proposed area of work, Blackburn's findings concluded that no leaks were present within the proposed work locations.

However, driven by GPRS' commitment to provide sensational service, and industry-leading methodology and training through SIM, Blackburn extended his scrutiny—an action that led to an enormous discovery.

## The Find: Large Underground Water Leak

Farther along the domestic water line, away from the initial investigation's focal point, Blackburn uncovered a defect within the system—a **significant leak hemorrhaging over 700,000 gallons of water** in the few months prior to it being discovered. His proactive approach and skillful application of the industry's best technology and his trained ear allowed him to differentiate between leaks and other ambient noises. This culminated in tangible financial savings for Mersen. Through the discovery, the Mersen plant was able to stem the outflow and prevent an astounding \$96,000 dollars per year in non-revenue water loss.



**Image Description:** Flooded job site due to massive underground water leak at plant

### The Expanding Scope

Impressed by this discovery and the estimated \$8,000 dollars- worth of monthly savings as a result of Blackburn's diligence and investigation, the plant's Facility Engineer requested that the entire property have a full-scale site leak survey to unearth any remaining hidden leaks. The ductile iron water pipes provided a cooperative medium for the leak detection equipment, including the elephant foot by FCS, created for the very purpose of blocking additional noise to listen and pinpoint the exact locations of a leak.



**Image Description:** GPRS Project Manager pinpoints exact location of subsurface water leak with FCS’s Elephant Foot.

The subsequent finds from the remainder of the site’s water lines were staggering. **Blackburn identified five additional leaks, including a large break in an 8-inch fire line system that was gushing out 10,000 gallons out water per day.**

The team at Mersen had to shut off the fire line to repair the leak on the 80-year-old system because water was spewing up from the ground when the surface was disturbed for repairs. Evidence of the water’s unrelenting force, washing out the foundations it flowed beneath, are shown in the image below—a danger that would have remain undetected if not for the vigilant eyes and ears of Blackburn and his equipment.

[The Visualization](#)



**Image Description:** Concrete slab sinks into the ground once saw cutting occurs due to an 8" ductile iron water line with a full circular break.



Capitalizing on silence during a recommended full plant shutdown, Blackburn, with his acoustic leak devices and well-trained ear, investigated for additional leaks on the ductile iron system. Post-repair, GPRS' SiteMap® platform stored the newly updated water map as-builts, providing Mersen with an invaluable, updated digital map, a stark contrast from the out of date 22-year-old chart they had been using.



**Image Description:** Water Utility Mapping Software, SiteMap® displays all accurate water utility as built documentation for Mersen plant.

Once the leaks had been located and accurately marked, repair work began. From saw cutting of the concrete and excavation of dirt to the repair of the leaking line and repaving of the asphalt, Blackburn's extra effort from day one when paired with our equipment on the job resulted in a safer site and a massively reduced water bill.

## The Outcome



**Image Description:** Concrete slab repairs after fixing underground water line.

Rick Blackburn's intervention displayed GPRS's core benefits—time conservation, financial savings, and maintaining safety and integrity across job sites. Beyond detecting leaks, it's about securing infrastructure for the future and maintaining reputations built on reliability.

### Who To Call For An Underground Water Leak

To understand the financial relief and operational stability that accurate leak detection can offer you, as it did for the facility and engineering team at Mersen, [insert your call to action for FCS].

To learn more about how a GPRS Leak Detection specialist can help keep money in your pocket and reworks on your job site to a minimum, [request a quote](#) or [schedule a service](#), today.



