

SEVERN TRENT WATER CASE STUDY



SEVERN TRENT WATER SUSPECTED A LEAK ON A 32" WATER MAIN BUT WERE UNABLE TO ACCURATELY LOCATE IT WITH TRADITIONAL LEAK DETECTION METHODS, SO THEY REACHED OUT TO AQUAM PIPE DIAGNOSTICS.

Overview

 Client	 Services	 Technology	 Pipeline	 Pipe Diameter	 Pipe Material
Severn Trent Water, UK	Leak detection, visual condition assessment	LDS1000™ System	Potable Water	32"	Ductile Iron Pipe

The Challenge

Based out of Birmingham in the UK, Severn Trent Water is a regional state-owned water authority, delivering drinking water to 4.3 million households and businesses territory wide. The water services company had attempted to locate and identify a troublesome leak that they were able to isolate down to a specific segment of pipe. However, traditional acoustic leak detection methods had not been successful, so they concluded they needed a tool with a greater level of accuracy. Subsequently, Aquam Pipe Diagnostics (APD) were contacted to deploy their state of the art in-line leak detection platform – The LDS1000™. This long distance pipeline inspection system features a tri-sensor head with CCTV camera, a hydrophone for leak detection and a sonde for underground pipeline location and accurate leak pinpointing. The system is operable on pipe diameters 12" and above and has the ability to inspect up to 3280ft in one single insertion.

The Solution

The APD expert leak detection team reviewed the available information on the 32" Ductile Iron Pipe and came up with a strategy to survey the line utilizing the LDS 1000™ system.

During the strategic planning phase, multiple insertion points were identified, relying on pre-existing pipeline fittings as a launching platform for the technology. The LDS 1000™ was the ideal option for the assignment due to the fact that the system could be inserted under pressure causing no service disruptions on the transmission main. It also provided a visual assessment of the internal condition of the pipe and could inspect up to 3280ft; therefore, multiple insertion points were not necessary for this project.

The insertion points initially posed some unique challenges, but they were overcome without the need to reconfigure the pipe or introduce any additional fittings. The LDS1000™ relies on various drogue (parachutes) sizes which are determined by pipe diameter and flow; therefore, the equipment could be tailored to execute the survey without any flow manipulation of the system.

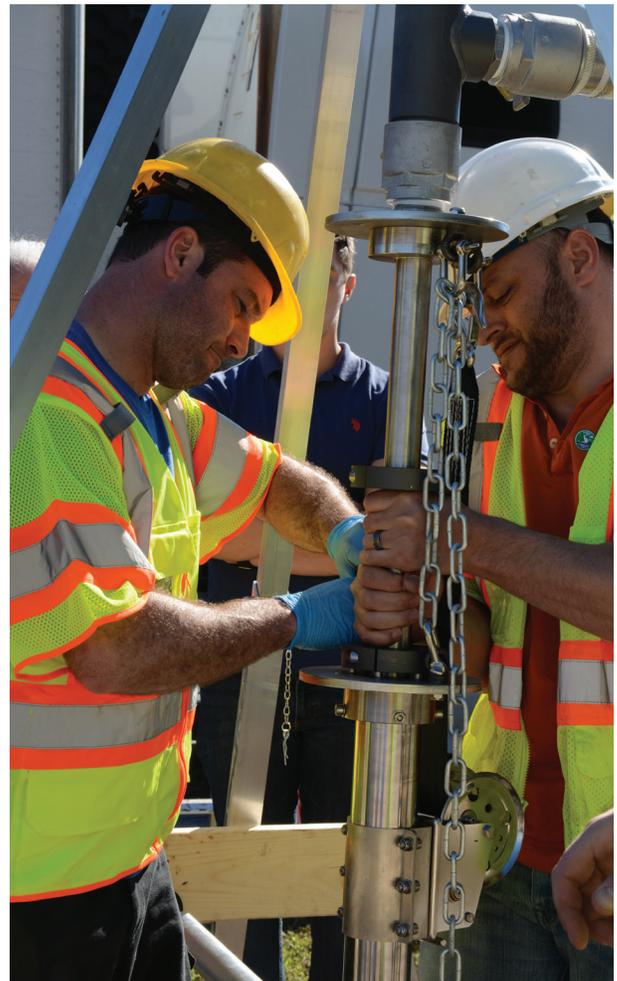


The Results and Benefits

The survey discovered and accurately located two leaks at the joints between pipe segments. Additionally, the high-definition visual inspection allowed APD to also identify waste and potential obstructions in the water line such as discarded drinking containers. Excessive sediment levels were also observed and brought to the attention of Severn Trent Water.

With the help of APD, Severn Trent Water not only identified and located two leaks, but also gained a better understanding of the condition of their 32" transmission main, enabling them to make data-driven decisions on a remediation strategy. They also appreciated the concept of establishing an ongoing pipeline inspection program to prioritize capital planning decisions and expenditure in the future.

By working with Aquam Pipe Diagnostics, Severn Trent Water achieved a better understanding of their system assets and how to address them.



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