CASE STUDY

Smart Leakage Detection Acoustic Logging

ANCALA WATER SERVICES

01 THE BRIEF

At Ancala Water Services **we care about the environment** and recognise the impact our services can have on the ecology of the habitats in which we operate.

Although leakage within our network is already at an all-time low, we continually explore innovative technology to reduce leakage further and improve our environmental impact.

One such technology is acoustic logging which has proven extremely beneficial in locating leaks/losses which are inaudible to human hearing. (Inaudible noise is commonly noise levels which are <30db). A small leak can be extremely difficult for our technicians to locate therefore the use of Acoustic Logging technology provides us with the tools to identify & locate a leak on the network easily. Each logger listens and collates 7200 sound samples (number of seconds in a 2-hour period).

Sound files are then produced from each logger to allow our experienced technicians to establish leakage noise from other extraneous noise. This allows our technicians to pinpoint the exact location of the leak.

TOPIC
Reducing Water Leakage

AIM OF THE PROJECT
Reducing leakage levels across our network through acoustic logging

AWS has recently invested in cutting edge acoustic logging technology, with 517 units being deployed across our network.

We identified key sites which required permanent logger solutions, (Perma-Net) of which 140 were utilised.

The remaining 360 (Perma-Log), are utilised as a find and fix project to target priority sites. This allows AWS to be agile and flexible in targeting sites which are experiencing higher levels of leakage.

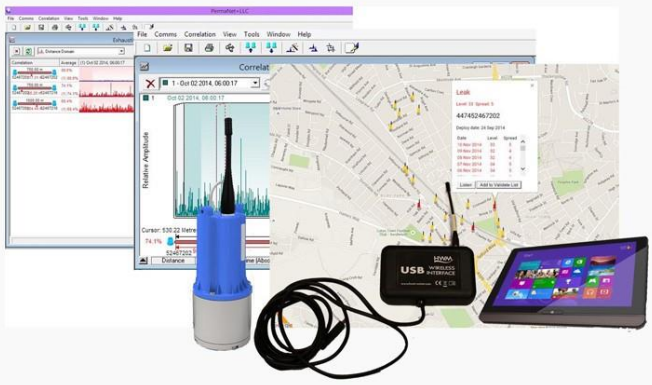

Fig 1 – Example of Acoustic Logging Equipment

02 THE SOLUTION

This sophisticated solution has proven to be a significant success in locating water leaks and other associated losses, which may have been unidentified for long periods of time. The loggers operate overnight listening for leaks and our technicians are able to interrogate this information via a programmed application. Each logger geolocates using GPS allowing for an accurate recording of results. The process to update information only takes 5-10 seconds per logger and our technicians have the ability to include comments if required. When collected, the results are downloaded via the app which transfers the data into a data lake for further analysis.

03 THE RESULTS

The results of implementing this acoustic logging has led to significant environmental and cost savings. AWS expects to see decreased cost and increased water savings over the coming months as more units are implemented across our sites. This highlights AWS continued commitment to reduce leakage across the network and improved environmental performance.

517	£147,560	4.4 Tonnes CO^2
Units Installed	**Cost savings per annum**	**Estimated CO^2 Saved**

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