



Leak located over 1458 metres with a second identified to halve the nightline

Introduction

Bristol Water team working with RPS were tasked with identifying the source of significant water loss in the Beverston area of Bristol Water. The survey was carried out over approx. 4000 metres of rural cast iron main, with only 70 properties making it difficult due to length of main between fittings and difficult to find stop taps and meters. The nightline before the survey was 4000 l/h.

The challenge

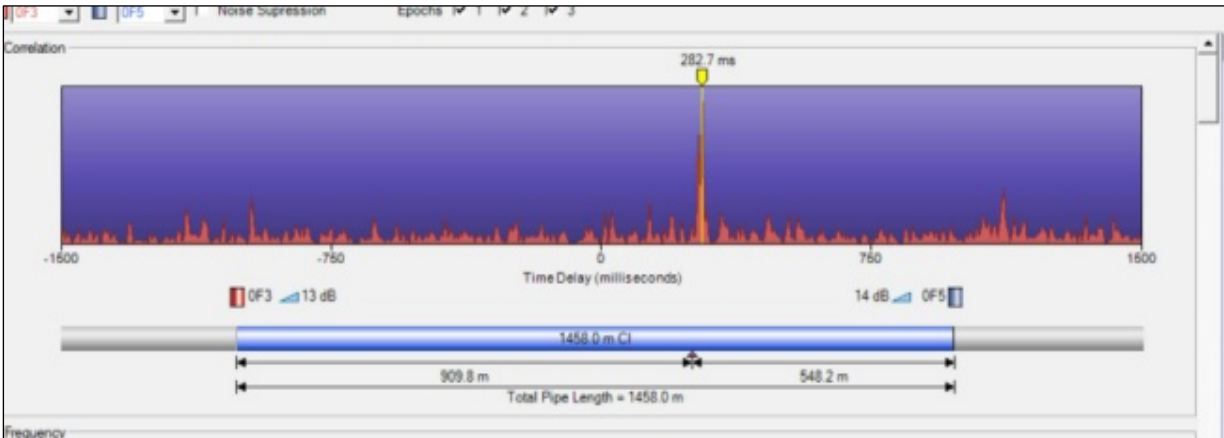
Standard leak detection methods had been unsuccessful in the district before carrying out the Enigma survey. Enigma was chosen due to the difficulty experienced with radio signal over the long distances, the fact it was a lot of 60mph lanes making unsafe for technician's to be at the roadside for long periods and the unnecessary work of continuously moving sensors to get the coverage.



Enigma installation next to the A4135 highway

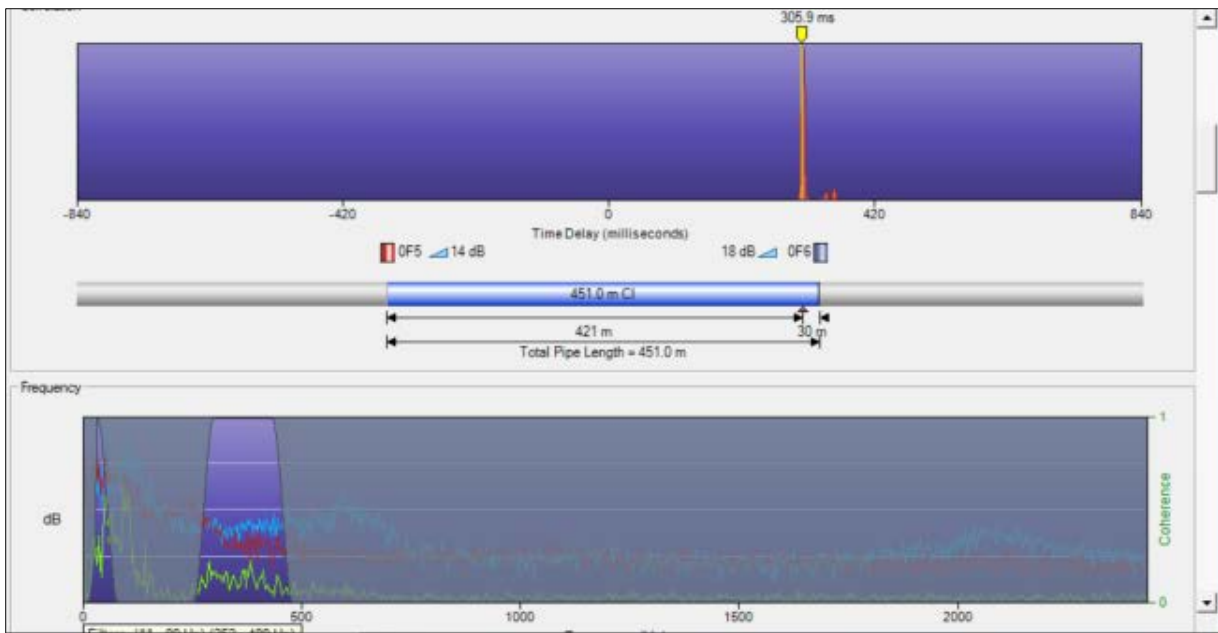
Installation

The loggers were put out in the day time, collected, analysed and followed up the day after making it productive. The use of Primayer's remote correlator, the Enigma proved to be a key factor in the safe, reliable location of these hard to find pipe breaches.



Above is a correlation over a distance of 1458 metres that picked up a 1200l/h leak on private supply to Park farm.





Second leak located on main over 451 metres

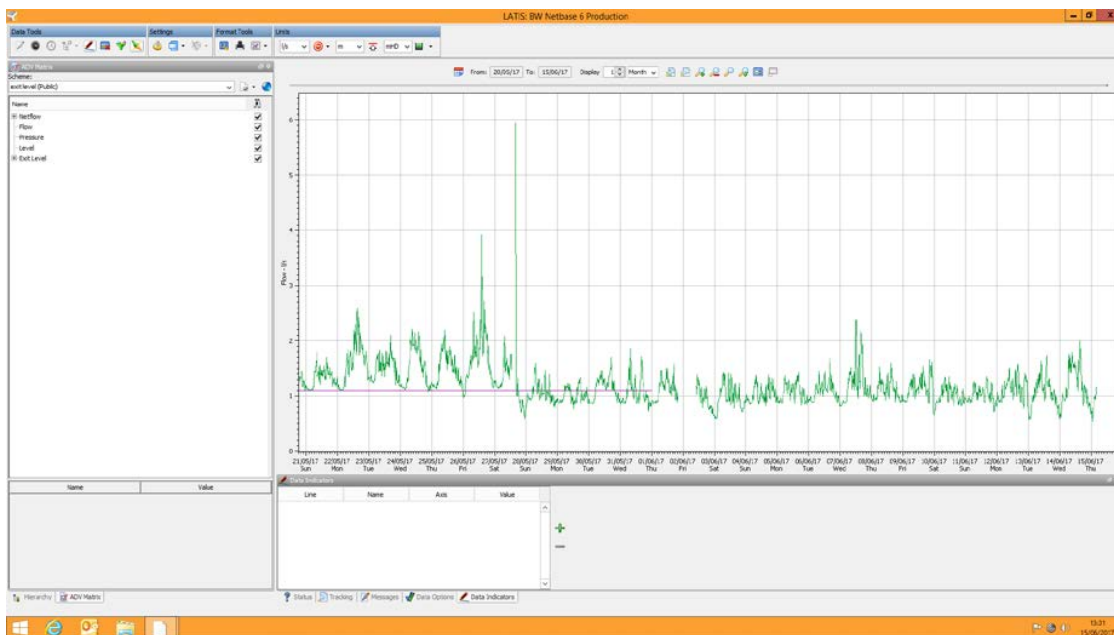
Total water loss reduction after identifying and fixing these leaks has been from 4000 l/h down to a little under 2000 l/h.

Results

The correlation results showed a leak over a distance of 1458 metres on a private pipeline supplying a farm. This was subsequently validated as a 1200 l/h water loss.

“The Engima has proven an indispensable part of our leak detection toolkit. It’s found our needle in the haystack!” Gareth Ingram Leak Technician RPS

A second leak on the A413 was located over a distance of 541 metres. This was filtered at two different frequency bands to reduce pump noise. This leak has been confirmed as 1000 l/h water loss.



The nightline flow before survey was running at exit level of 1.1 l/s and after survey and repairs it reduced to 0.5lps; a saving of 0.6 l/sl.



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