

CONDITION ASSESSMENT OF BURIED WATER PIPELINES: WHICH TECHNIQUES WORK?

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ABSTRACT

A review, originally carried out for Sydney Water Corporation, of a complete range of direct and indirect methodologies used to assess the condition of buried cast iron and steel water pipelines is presented. These techniques include pipe sampling, pit depth measurement, soil testing using various parameters, as well as other non-destructive testing (NDT) based on electromagnetic principles.

Both the literature and comprehensive field trials have shown that soil testing using linear polarisation resistance (LPR) methodologies as an input to statistical analysis packages is a cost-effective technique. Direct evaluation using remote field eddy current intelligent pigs can also be very useful for the direct examination of critical watermains but is limited to smaller sizes of DN150-375.

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