

CONDITION ASSESSMENT OF PRESSURIZED WATER MAINS

Lau Wai, Tony Engineer, Black & Veatch, Hong Kong
Philip Ferguson Manager, Pipeline Condition Assessment, Earth Tech Engineering, Sydney Australia

ABSTRACT

Due to some high-profile mains bursting events in Hong Kong in recent years, the condition of the existing pressurized mains has become a major concern of the Government and other maintenance agents.

In this paper, the history of condition assessment of water mains will be briefly summarised from early 1900's to present day. These include initially, electrical and chemical soil techniques, and more recently electromagnetic and electrochemical soil testing methods. In more recent times, computers have allowed for development and utilisation of algorithms, to analyse vast arrays of data.

The concept of condition assessment as a multi-stage process will be explained, from investigation design, to in-field measurements, and finally to analysis and recommendations. This will be exemplified with case studies from other countries, and also some recent cases in Hong Kong.

The future for condition assessment will also be discussed, as it is seen in having an increased role in the challenge for more cost-effective management of water infrastructure, allowing better development of capital and maintenance programming.

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