Up until now, wastewater pressure mains have been designed based on the assumption that only liquids were to be transported. In practice, it appeared that large volumes of gas were present in these mains, which caused the flow capacity to decrease in time. A consequence of this reduction can be that the sewer system is not drained fast enough. The main objectives of this research are; (1) To provide an explanation for the observed differences between practice and theory applied with respect to gas transport; (2) To obtain a better insight and knowledge about the gas transport phenomena and processes, and the parameters that influence them; (3) To provide a diagnostic tool, so that operators can assess the status of a pipeline with respect to accumulated gas. This diagnostic tool identifies the occurrence and location of the gas pocket; and (4) To modernise the design practice and provide the operators and designer with tools to carry out analyses to troubleshoot problem pipelines and, in the case of new systems, tools to calculate what the performance of the pipeline will be with respect to gas transport, flow capacity and energy loss due to entrapped gas.
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