



## Assessing Sewer Force Mains

**Pure Technologies** provides innovative solutions to help manage pressurized pipelines with leading capabilities in the condition assessment of sewer force mains.

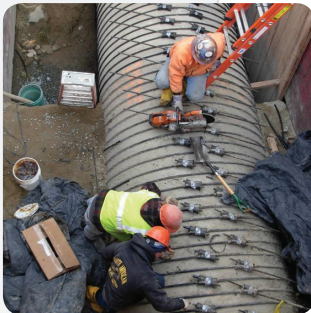
### Why Assess a Force Main?

Many force mains have been in use for several decades and have never been assessed or proactively managed. To safely rely on these pipelines, their condition should be periodically assessed to ensure there are no locations susceptible to failure. In addition, many wastewater utilities are faced with regulatory mandates that require condition assessment of their pipeline systems, including force mains. As a result, utilities are faced with the difficult task of assessing their force mains, which until recently was often not feasible due to operational constraints. Pure Technologies provides reliable technologies for force main assessments to be conducted within operational constraints of most wastewater utilities.



### Methods to Assess Force Mains

There is no single technique or technology that provides a comprehensive assessment for force mains. The best condition assessment programs utilize a combination of non-destructive assessments combined with engineering judgment, including some of the following services:



- *SmartBall® Survey: identifies leakage and pockets of trapped gas in a sewer force main. The pipe remains in service while the survey is performed.*
- *Identification of points of concern: where pockets of trapped gas are detected, wall thickness is measured to determine if internal (H<sub>2</sub>S) or external corrosion has compromised the structural integrity of the pipe wall.*
- *PCCP Assessment: electromagnetic inspection, acoustic monitoring, and visual/sounding inspections are preferred condition assessment techniques for sewer force mains.*
- *Soil and Groundwater Sampling: by sampling and analyzing soils and ground water, aggressive soil conditions surrounding a pipeline can be determined.*
- *Design Review: by evaluating a pipe design to the standards when the pipe was constructed and then comparing with current standards, a pipeline's durability can be evaluated.*
- *Test Pit Evaluations: through exposing the pipe for inspection and sampling, a detailed assessment can be ascertained for the points that are inspected.*

*Strengthening of a  
72-inch sewer force main*

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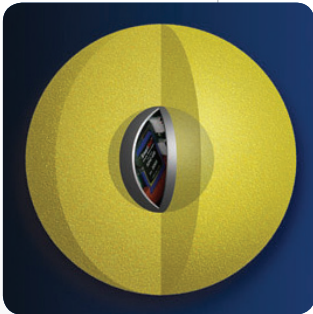
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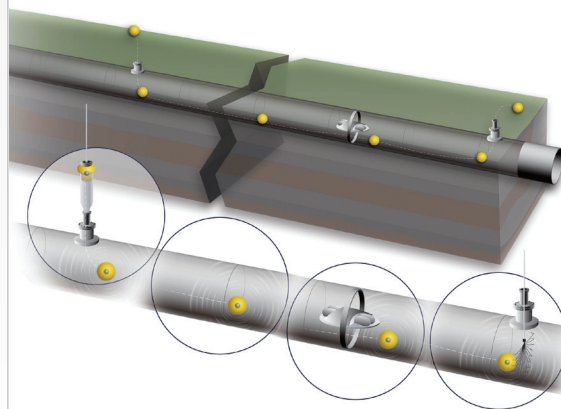


[www.puretechltd.com](http://www.puretechltd.com)

Toll-free: 1-855-280-PURE (7873)



*Pipe sampling on a  
24-inch sewer force main*



*SmartBall® is inserted into an operational pipeline and extracted at the point of discharge. While it traverses the pipe, it identifies leaks and pockets of trapped gas.*

## Pure Technologies

**Pure Technologies** provides non-destructive testing and monitoring technologies to better understand the condition of pressurized water and wastewater pipelines. Pure's portfolio of services include condition assessment, engineering analysis and recommendations, and monitoring solutions for pressurized force mains.

Pure has been a leader in the area of pipeline condition assessment since 1997 and has developed state-of-the-art technologies for pipeline assessments. Some notable accomplishments of our company include:

- *Inspection/assessment services for more than 2000 miles of pipe.*
- *Structural monitoring systems for more than 500 miles of pipe.*
- *Provided inspection/assessment services for more than 100 utilities throughout North America and around the world.*
- *Pure has patented a number of technologies for condition assessment techniques.*
- *Pure's engineering subsidiaries, Openaka, Inc. and Jason Consultants, have performed engineering evaluations of pressurized pipe for more than 25 years.*
- *Pure has managed repairs of approximately 200 pipe sections.*
- *Pipeline sampling programs (soil, groundwater, mortar, pipe sampling, wall thickness measurement, etc.).*
- *Performed numerous pipeline forensic evaluations to determine the pipeline condition or cause of failure/deterioration.*

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