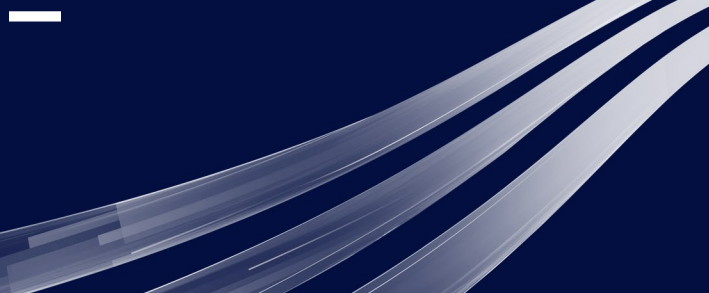


Ice Pigging™ eliminates septicity in rising sewer



United Utilities, a company that provides water and wastewater services in northwest England, is a regular user of Ice Pigging™ to keep their wastewater assets clean and prevent build-up of harmful substances.

THE MISSION

To reduce septicity levels in rising main

United Utilities enlisted the help of the Ice Pigging team for maintenance at their Inskip wastewater pumping station in northwest England. The task was to clean 1,900 metres of DN100 pipeline, specifically aiming to reduce septicity in the rising main.

Before the operation, United Utilities recorded Oxidation Reduction Potential (ORP) levels of -250 to -300 millivolts (mV), indicating high levels of septicity. This is likely due to low flow rates, which allow a build-up of organic matter and biofilm. Sewer biofilms reduce oxygen levels and produce hydrogen sulphide (H₂S) foul-smelling gas which has byproducts that are corrosive to metals and concrete.

OUR SOLUTION

An effective and quick solution of eliminating septicity

Septicity in wastewater assets occurs when organic material and microorganisms build up on the pipe walls to form a biofilm. This bacteriological activity reduces oxygen levels and produces odorous and corrosive compounds such as hydrogen sulphide (H₂S) and sulfuric acid (H₂SO₄).

This problem commonly occurs in sewerage systems and wastewater treatment plants, including those in industrial facilities. It is corrosive and can damage infrastructure, as well as being responsible for many odour complaints.

OUR SOLUTION [CONT'D]

Ice Pigging is a powerful method for cleaning pipes. It involves sending semi-solid ice slurry through the pipes to remove any unwanted deposits, or biofilms, to improve both water quality and hydraulic performance. SUEZ recycling and recovery UK is the exclusive provider of this innovative solution for water, wastewater, and other industries.

Unlike traditional pigging methods, Ice Pigging is quick, non-intrusive, and cost-effective. It uses less water than conventional flushing methods and adapts to complex pipe networks.

Having been one of the early adopters of Ice Pigging since 2014, United Utilities is a regular user of Ice Pigging on its pumped wastewater assets.

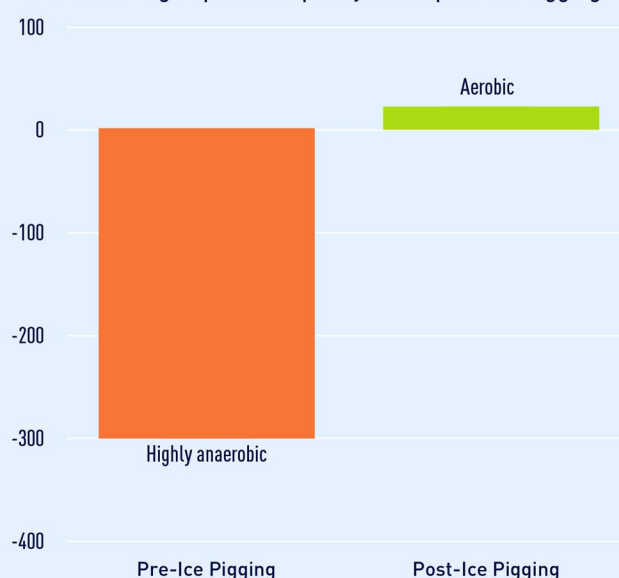
It took the team just four hours to work on the network's problematic section using a waste tanker to keep up with incoming flows. Many sites can be cleaned using the existing pumps, in which case the pumping station can stay in service for the duration of the project.

THE RESULTS

Ice Pigging effectively removed biofilm from the pipes and reduced septicity level

Upon reviewing the outcomes, the client was pleased to find a shift in septicity levels of over 320mV, taking the conditions from highly anaerobic to aerobic. While a reading of -50mV is considered acceptable, the team was happy to observe a +23mV reading, a significant improvement from the previous negative levels. This improvement shows that Ice Pigging is highly effective at eliminating septicity in wastewater rising mains.

Chart showing improved septicity levels post-Ice Pigging™



“The SUEZ Ice Pigging™ team worked swiftly and effectively with our team to achieve the desired outcome within just a day. Septicity gone, results achieved. Great experience.”

- Stephen Boyall, Production Manager, United Utilities