



COMMENT LE SYSTÈME QUICK-PIG RÉDUIT LES COÛTS ET AMÉLIORE LA SÉCURITÉ À SEVERN TRENT

NICO HINDRIKS, REINERT-RITZ GMBH



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A SOLUTION FROM
REINERT-RITZ



How the Quick-Pig
System cuts costs
and enhanced
safety at Severn
Trent



Question

Do you know what your rising main (Sewage pressure pipeline) looks like?

This Way?



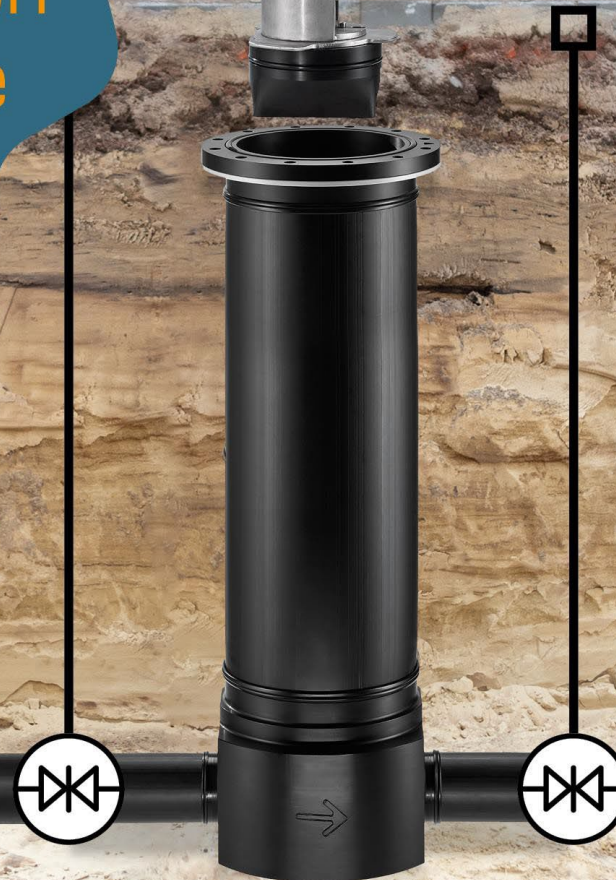
Or that Way?



The Quick-Pig is a
**cleaning and inspection
opening for pressure
pipelines**

that can be safely handled
from the upper edge of the
terrain.

Shaftless
happy since
2015

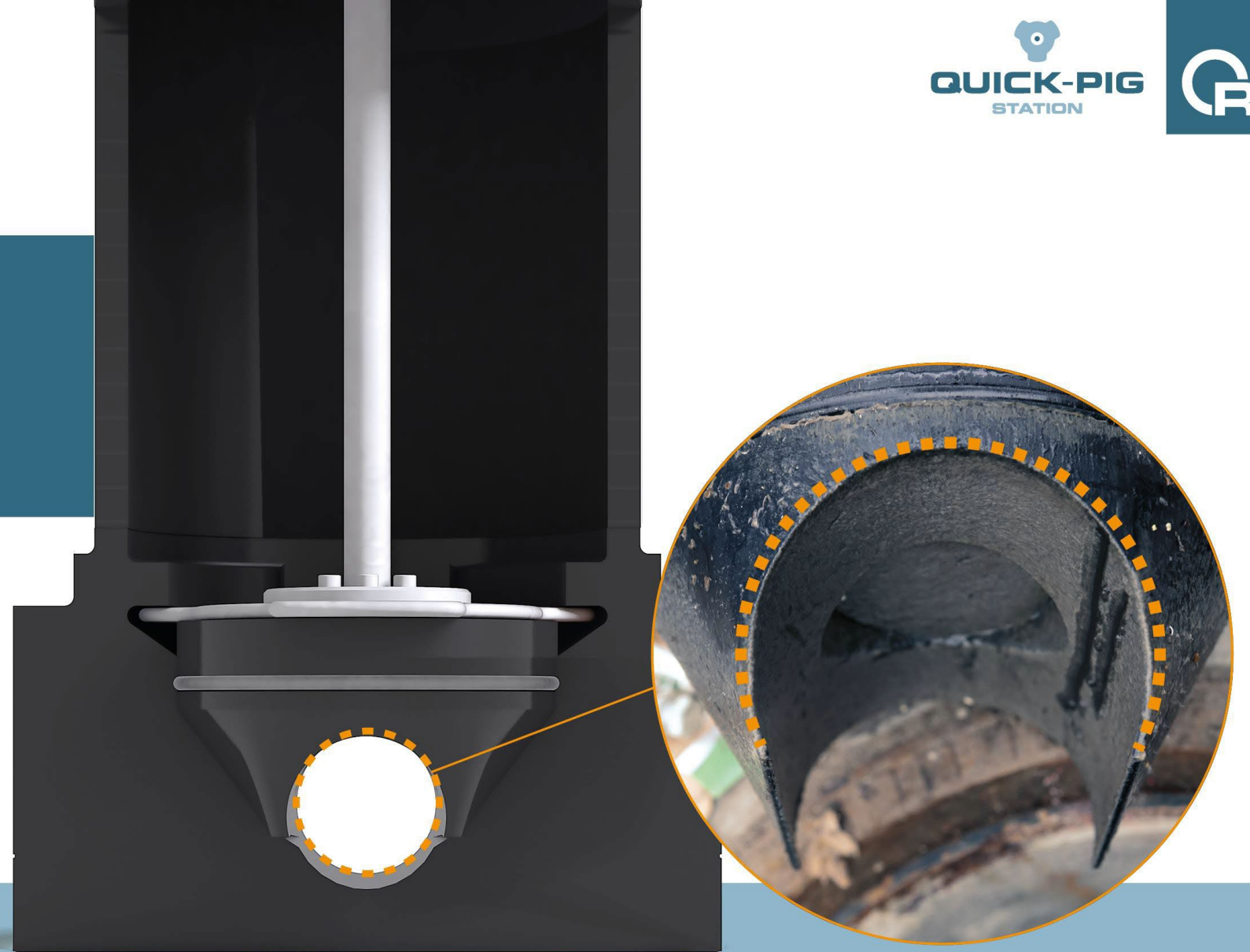


Examine the launcher
for adhesions and
vegetation

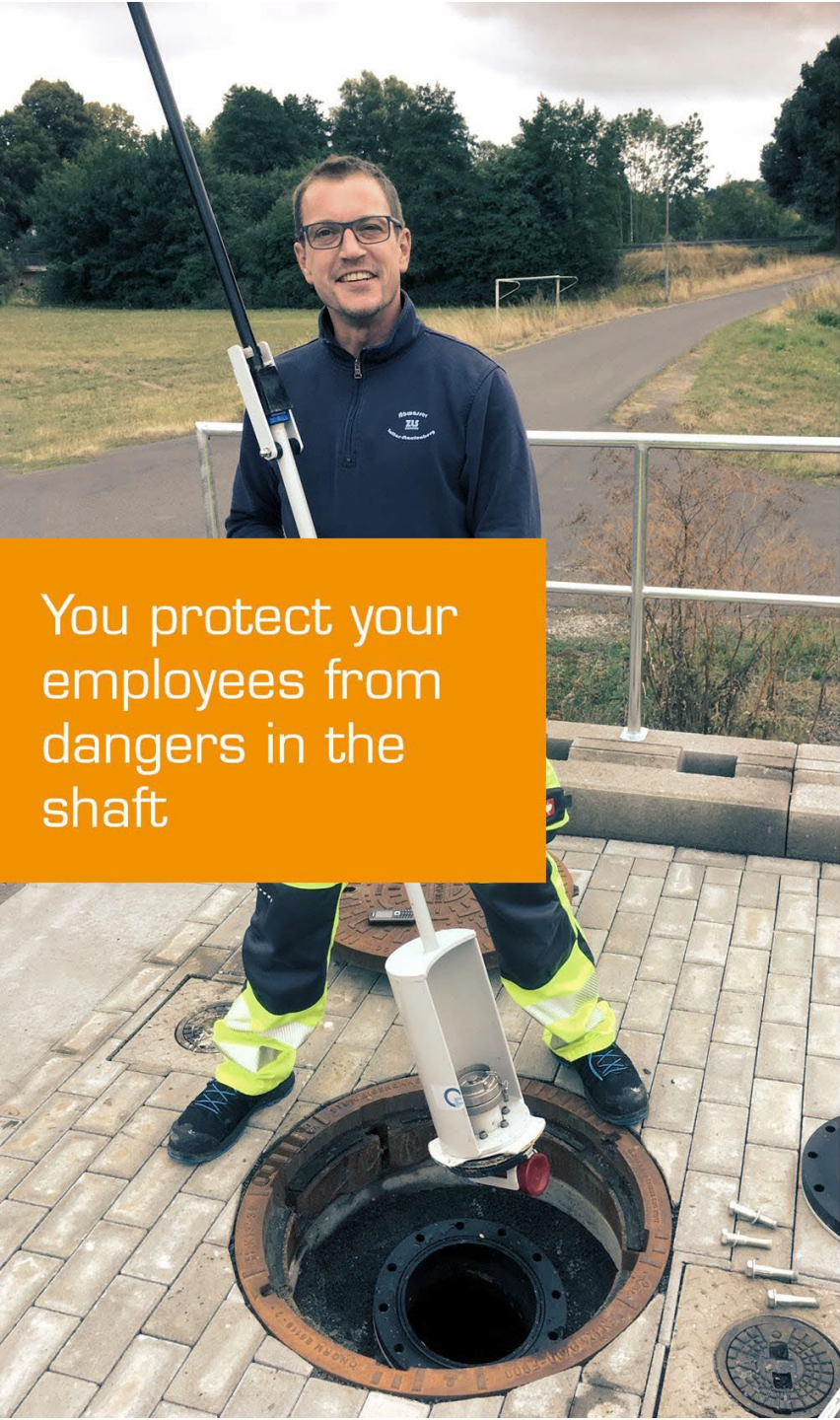


Perform
the pigging

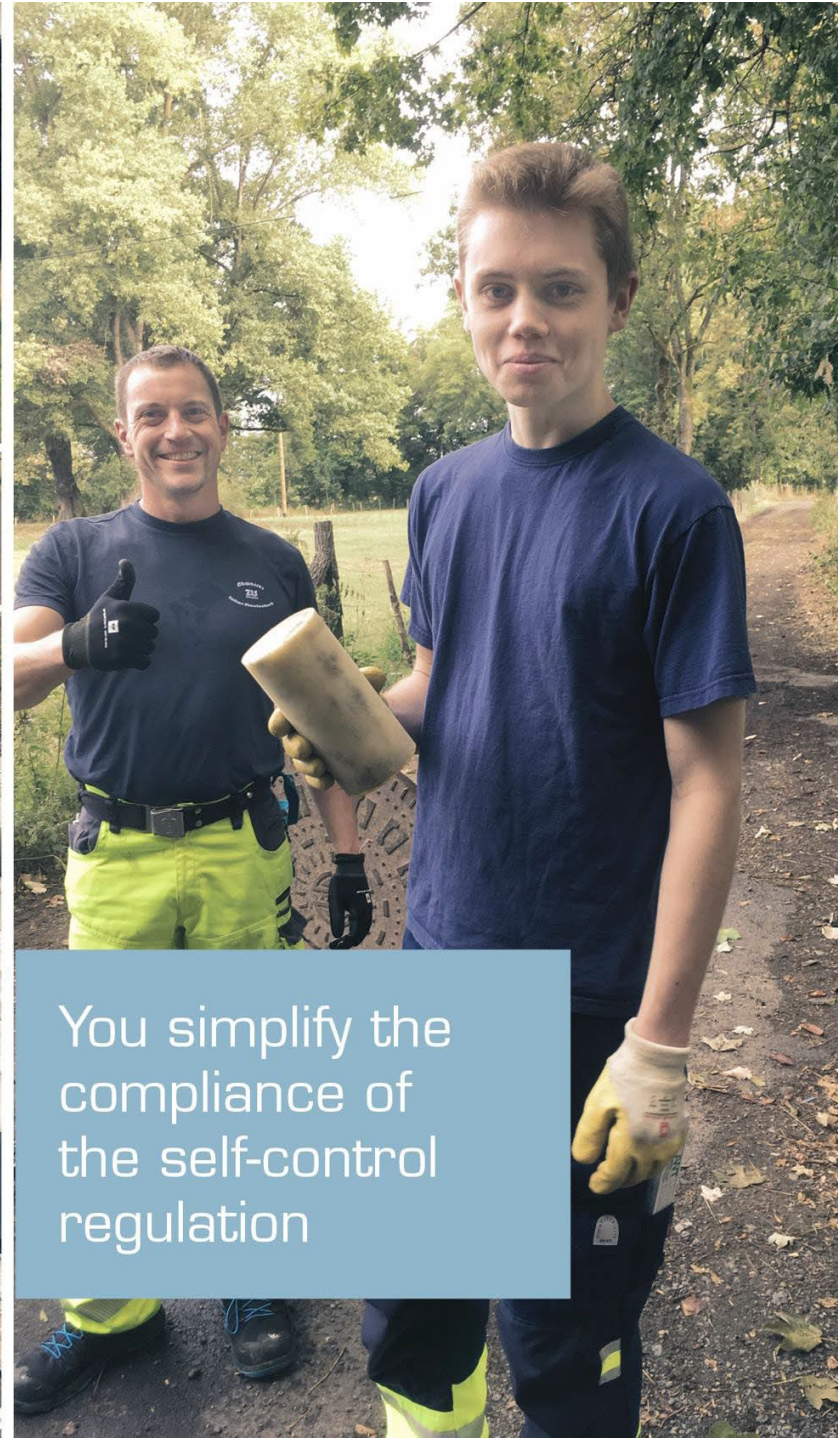
Take out and check
a piece straight
from the pipe



Create clarity. For sure.



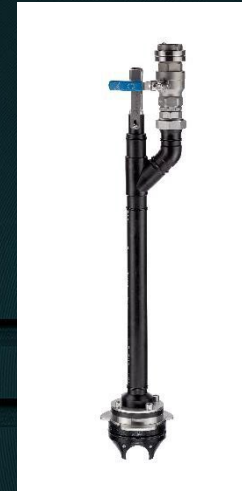
You protect your employees from dangers in the shaft



You simplify the compliance of the self-control regulation



You are increasingly fulfilling your duty of care



STATIO

Case Study Severn Trent

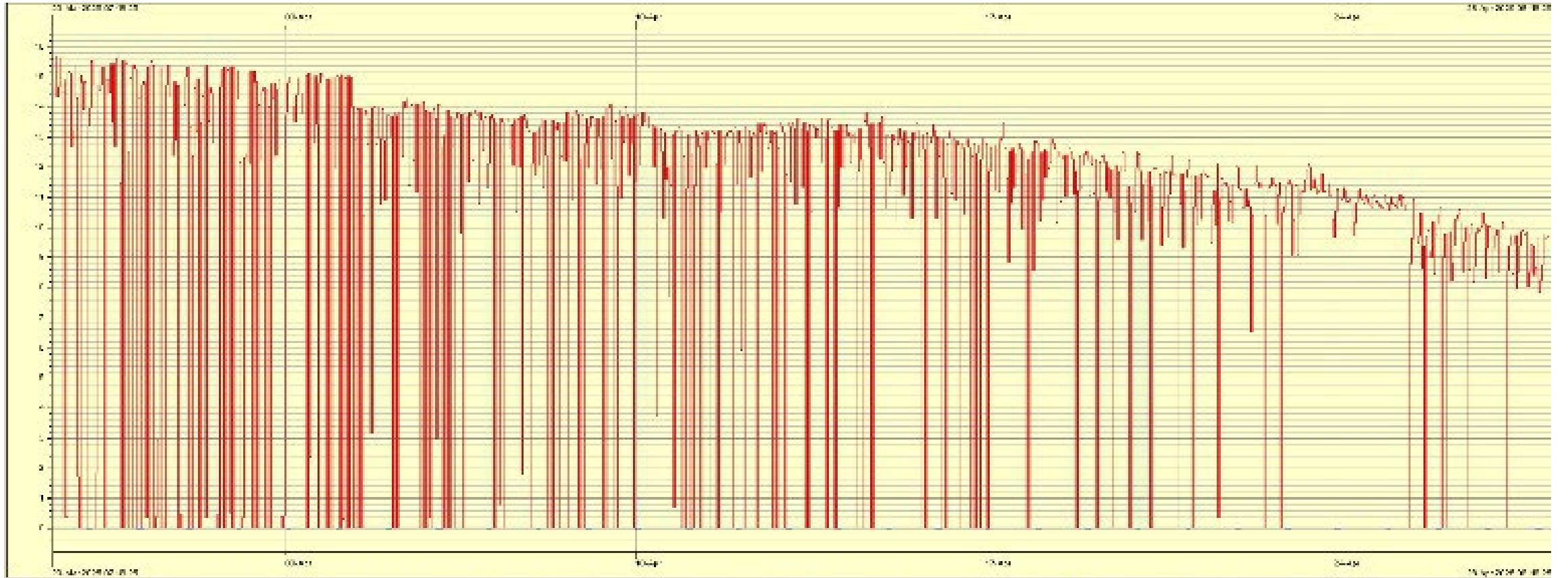


SEVERN

TRENT

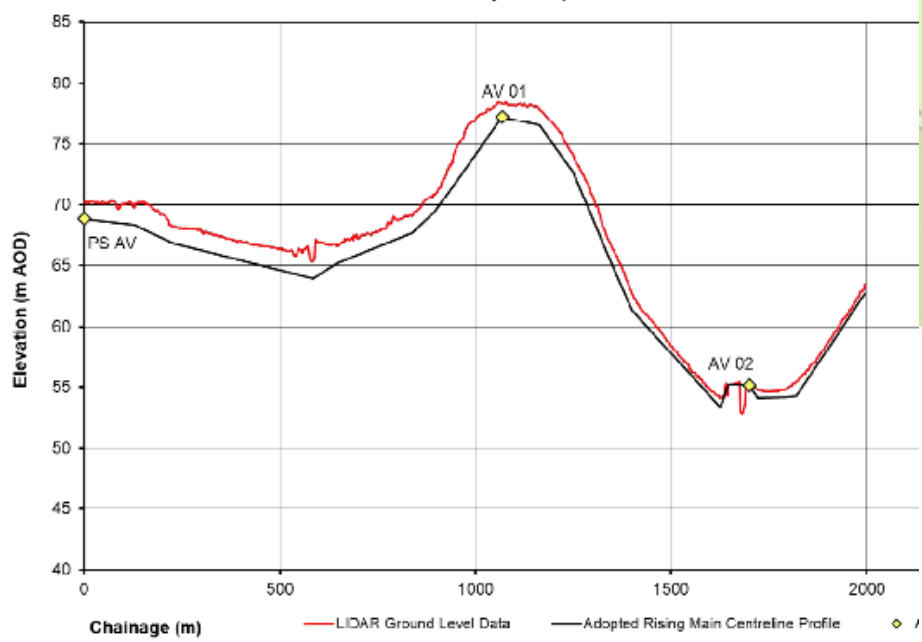
Background information

- Cropston SPS (Sewer Pumping Station) located in Leicestershire basically takes wastewater Calcium aluminate from the adjacent Cropston Water works.
- Cropston SPS houses 2no wet well submersible type pumps operated on a duty/standby basis.
 - Flygt 3127.161 Curve 246, 3 ph. 50 Hz, 2900 rpm, Y690/400 V, 8/14A, 7.4kW
- **Rising Main ~1,987m long and 80mm MDPE**
- There are 3 Air Valves on the system, 1 by the SPS, one at the top of the hill and one (isolated) at the bottom of the hill near the bridge near the discharge. The discharge manhole then drops down a swanneck ~8m into a large trunk sewer.
- Flow should sit steady around 15m³/hr (not l/s). This can drop off but if flow gets below 4m³/hr then this affects ability to produce clean water at the treatment works.
- There have been problems for years with the system not operating as it should. Pump station team say it is the rising main. They say it is the water works and the material hardening up. We have not got to the bottom of the issue (which I believe is trapped air). Because of this we have been ice pigging and air scouring the rising main to improve performance.



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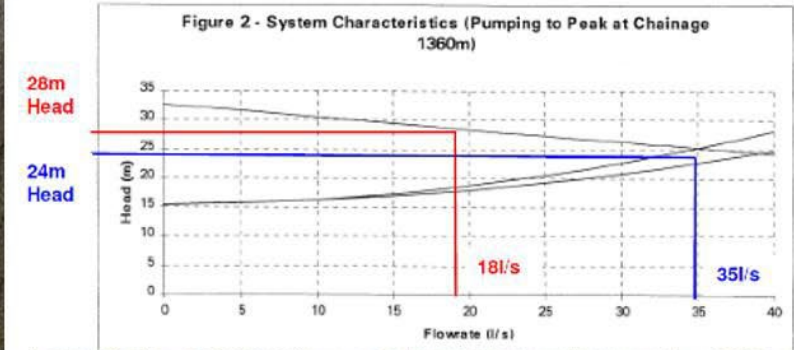
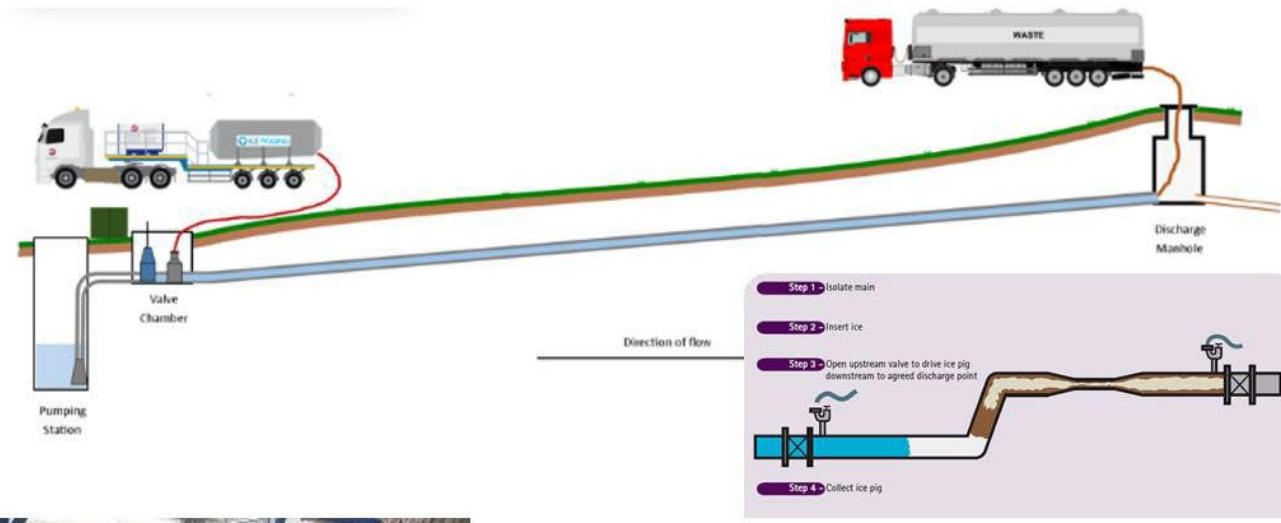
I want to...



Discharge MH
SK56117004

ICE PIGGING / AIR SCOURING

- In order to mitigate poor flow rates, we have been undertaking ice pigging & air scouring to cleanse the main / purge the air.
- In theory reducing friction losses in the pipe reduces head and therefore more flow can be generated against curve
- This has temporarily solved the issues but at a cost ~£15-£20k



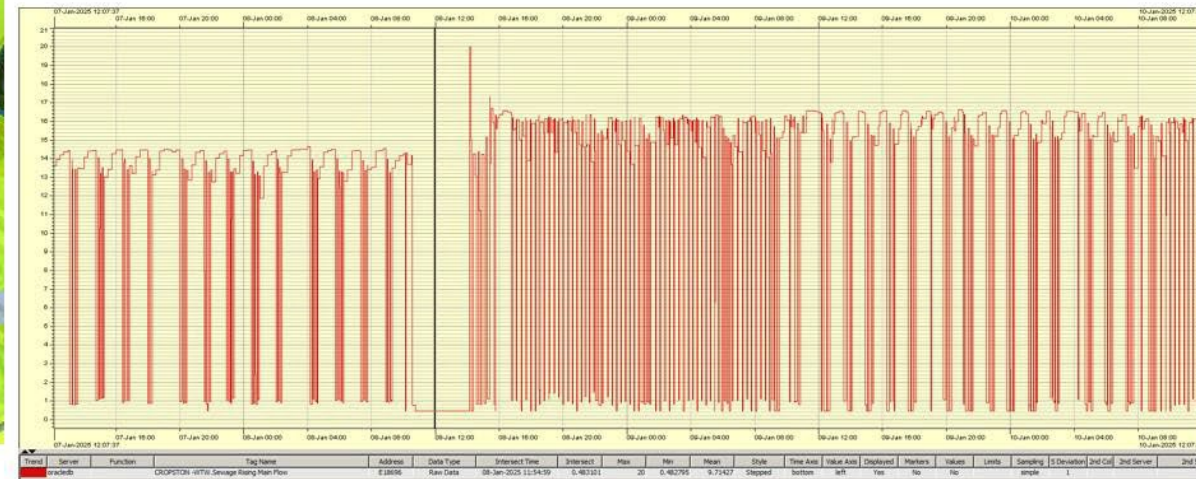
SITE INSTALLATION – CROPSTON SPS

- We first met at No-Dig Live in 2022 and discussed the possibility of trialling the technology (hoping to be first in the UK).
- After some correspondence, site visits and paperwork the equipment was delivered and system installed 8th January 2025.
- Shutdown and tankering of site for 1 day (2 tankers) and the system was installed & reinstated the following day.
- Total cost less than £20k



DISCHARGE PIG INSTALL

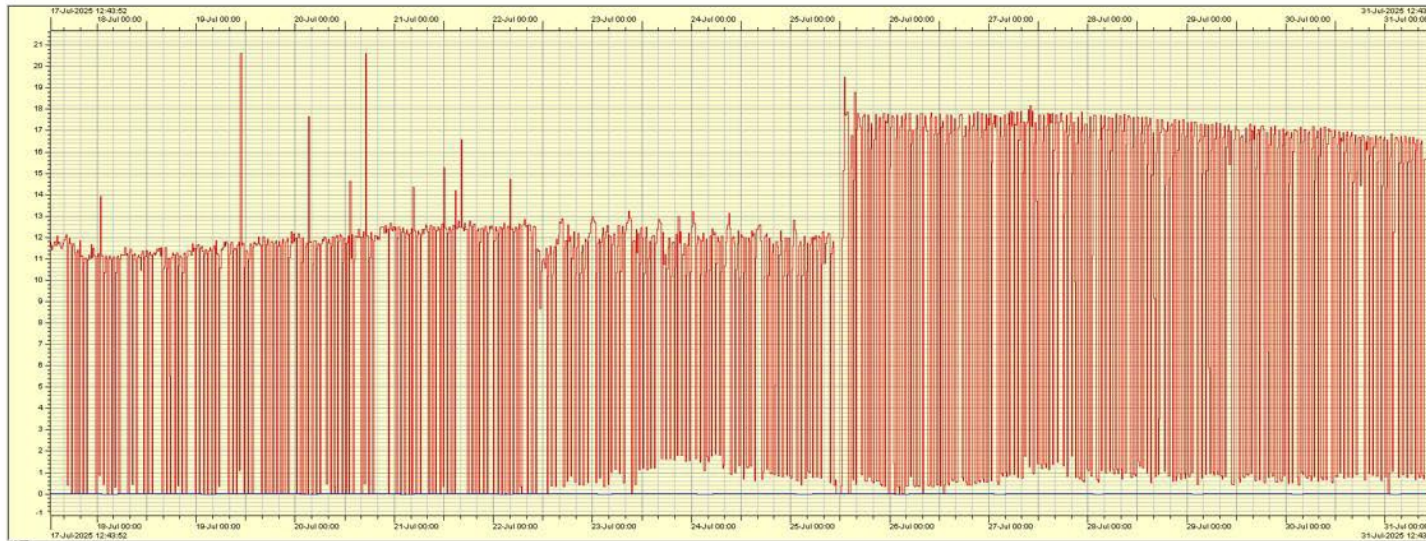
- At the discharge an air valve was installed prior to the swan-neck drop so we could monitor pressure
- 2no isolation valves were installed to facilitate isolation/de-pressurisation (only needed one at SPS).
- Quick pig station was installed and base laid (however base was laid lower & narrower than expected)
- The initial pig was then launched from the SPS on the same day as install and captured at the receiving end and flows increased from 14m³/h to 18m³/h.



BENEFITS

By having a permanent quick pig installation:

- This two-person operation will now take less than two to three hours to complete
- There is no delay in arranging contractors, signing off RAMS, approvals etc and can now be arranged quickly and as often as required with minimal fuss and cost.
- Teams have been trained on how the system works and this has been documented into a LOP.
- Flow rates prior to quick pig on 25th July 2025 of around 11.5m³/hr increased to an improved ~17m³/hr post quick pig.
- The hope is to install several others in the coming years where there is need/funding.



Thank you for
your attention.

Any questions? Feel free to contact us.

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