Hidden Leaks

External Methods Struggle to Confirm Leaks Identified by Inline Inspection

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Background and Motivation

- 225,000+ population
- 1,050 miles
- Customer of NTMWD
- In-house LD program
- Goal: Enhance reliability

Project Overview

Gerrish Street Water Main

1.25 miles (18" and 20")

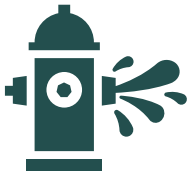
Free-swimming SmartBall leak detection tool

First inline leak detection project for the City

Why This Pipeline Was Selected

Age

Minimal service disruptions

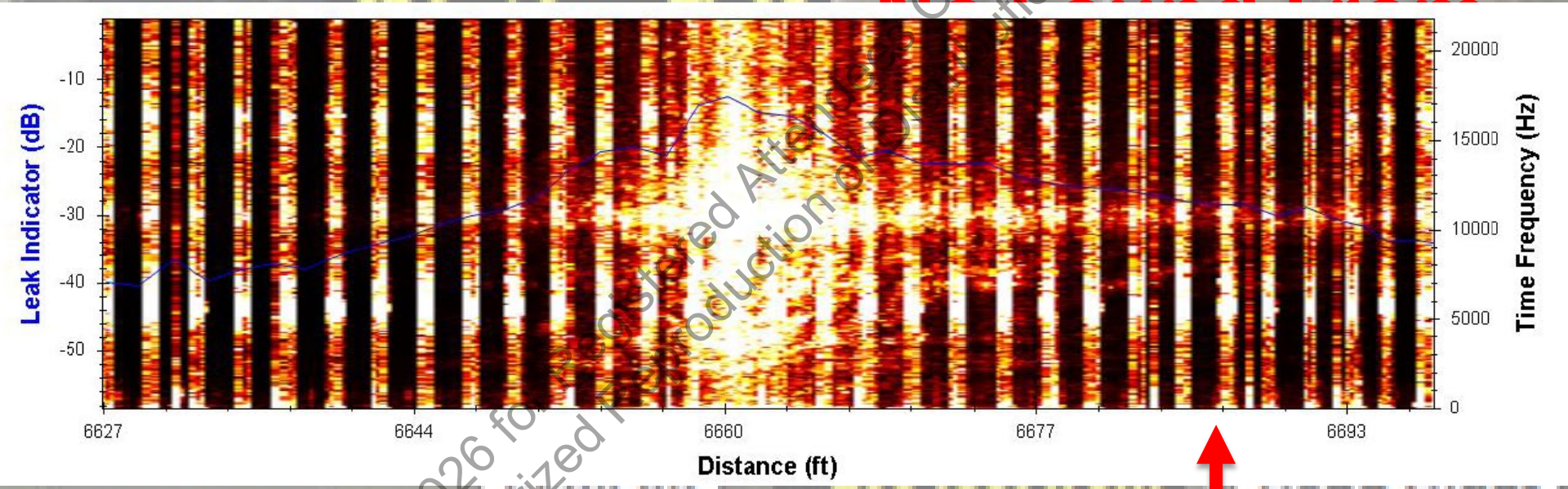


Hidden failures

Ideal for free-swimming technology

Inspection Results Summary

Inspection Results Summary (cont'd.)



Bend Right
to Leak 06

~25 feet

Field Verification and Excavation Findings

Leak 6

Challenges Encountered

1. Poor historical alignment records for older mains
2. Several bends complicated location efforts
3. External acoustic logger limited by signal attenuation

Technology Insights

Inline vs External

High-resolution data enables precise leak pinpointing

Comparing everything was key!

Outcomes and Benefits

- 3 active leaks
- Large-diameter assessment confidence
- Pipeline alignment awareness
- New framework for prioritizing future inspections

Conclusions and Future Plans

- Inline leak detection tools are essential for large diameter mains
- Strengthened City & Pure Technologies partnership
- Integrate SmartBall results into GIS, maintenance planning
- Next steps: Inspection expansion

Questions

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