UNDERGROUND LEAK DETECTION

*Current Practices in Leak Detection – Assessing Sources of Leaks, Pin-Pointing Excavations, Mitigating Risks and Claims*
Cleveland Thermal History

- District Steam operations began in 1894 & commissioned the District Cooling system in 1993
- Cleveland Thermal, a Corix owned business, is a district energy company that now utilizes 100% CNG to produce steam
- Supply thermal energy to more than 125 public, private and institutional properties downtown (over 30 million sq. ft.) thru approx. 16 miles of pipe
- Over 12,000 Ton of Cooling Capacity, 450 MLBs/Hr. Steam Capacity
- Public Utilities Commission of Ohio (PUCO) regulated
Leak Detection
“The Process”

- Understand Your Facilities

- The investigation
  - Manhole inspections
    - Including other utility vaults
  - Thermal Imagery Scans
  - Visual Surveillance
  - Sounding Reports
  - Drawing Reviews
  - Ground Ultra Sounding (Pin pointing)

- Other Factors
  - Public Safety
  - Damage Liability Claims
  - Loss of Revenue
AERIAL INFRARED SCAN

BEFORE

AFTER
AERIAL INFRARED SCAN

BEFORE

AFTER
Use of Portable Infrared Technology
Ground Sounding & Investigation
City Water Leaks
Water Leak Traveling thru MCI Conduit onto the Steam Main
Ground Water?

Sewer Leak??
QUESTIONS??