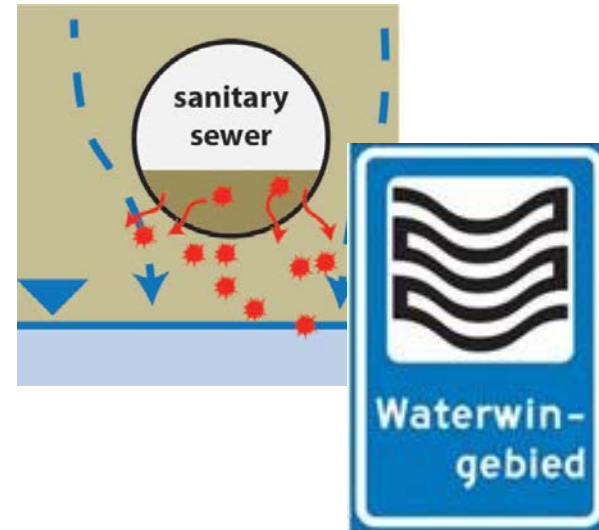


Geo-electrical Sewer Leak Detection, Quantification and Location

Bram Stegeman
29-05-2019

Leakage



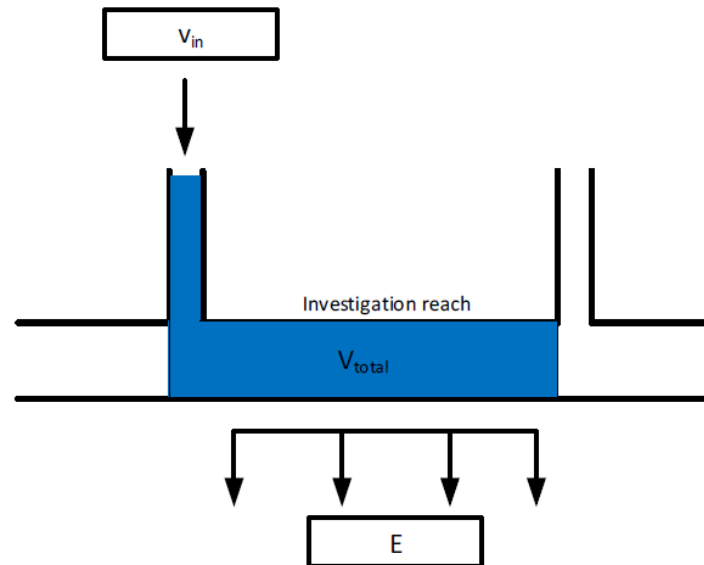
Leakage

- 3 parameters of leakage:
- Detection: is there a leak?
- Quantification: how much leakage?
- Location: where is the leak?



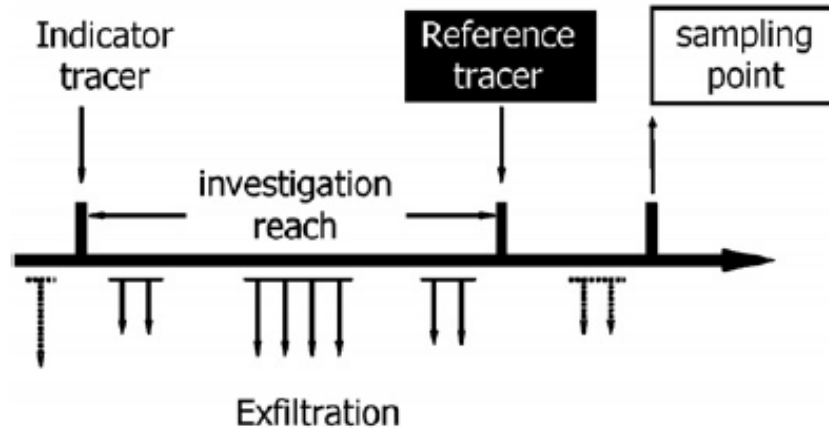
Field experiment Arnhem

- Pressure test
 - Volume balance



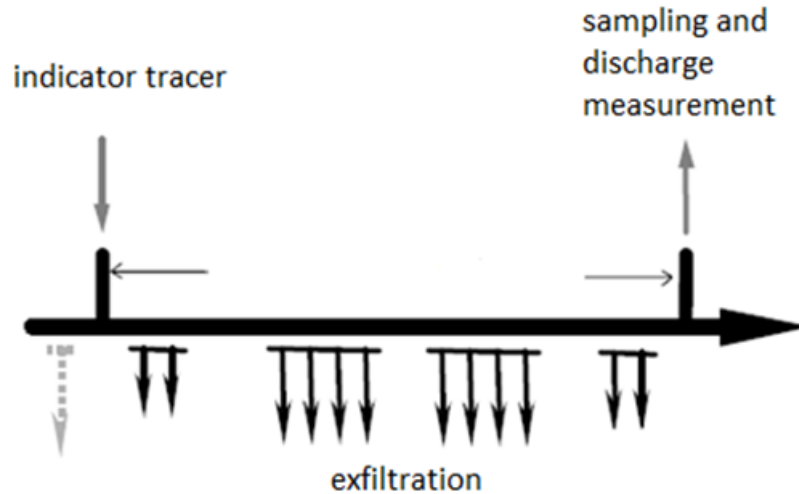
Field experiment Arnhem

- Tracer experiments (QUEST-C)
 - Mass balance

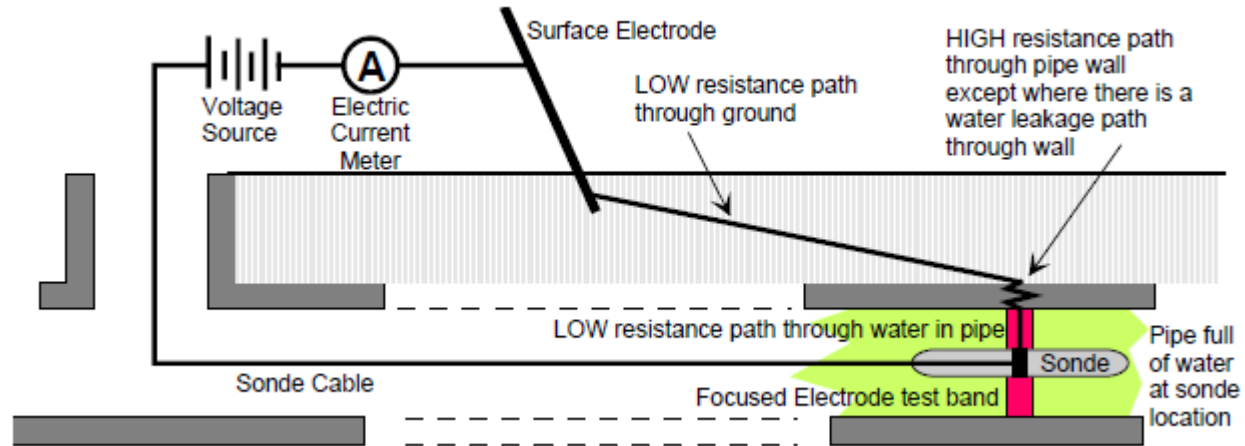


Field experiment Arnhem

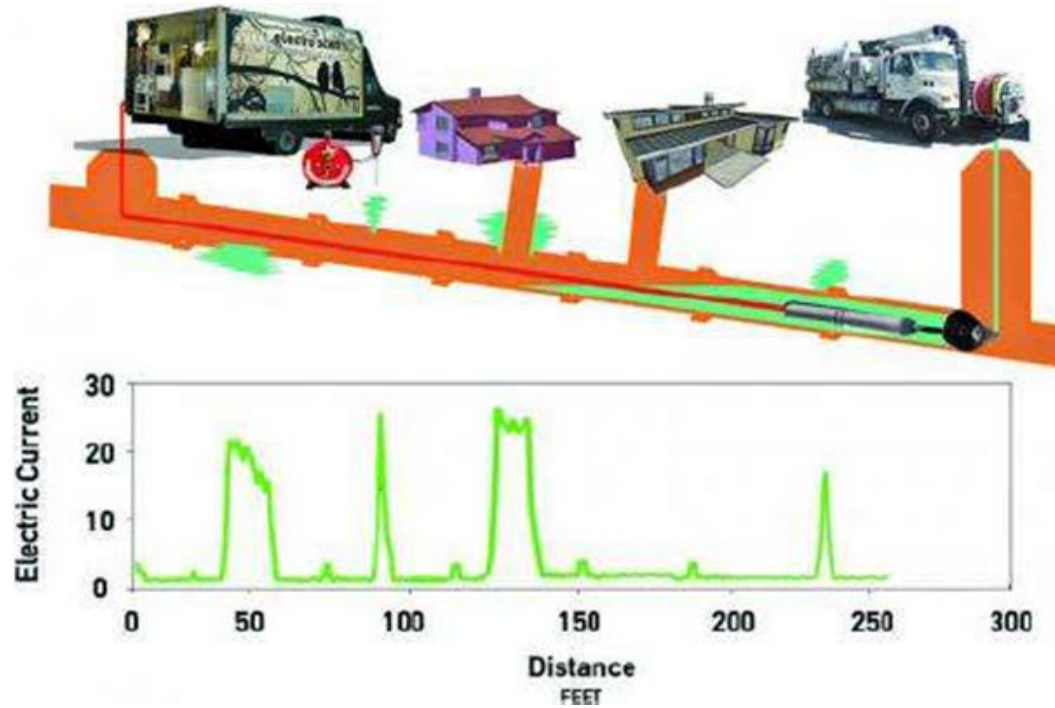
- Tracer experiments (DEST)
 - Mass balance



FELL



FELL



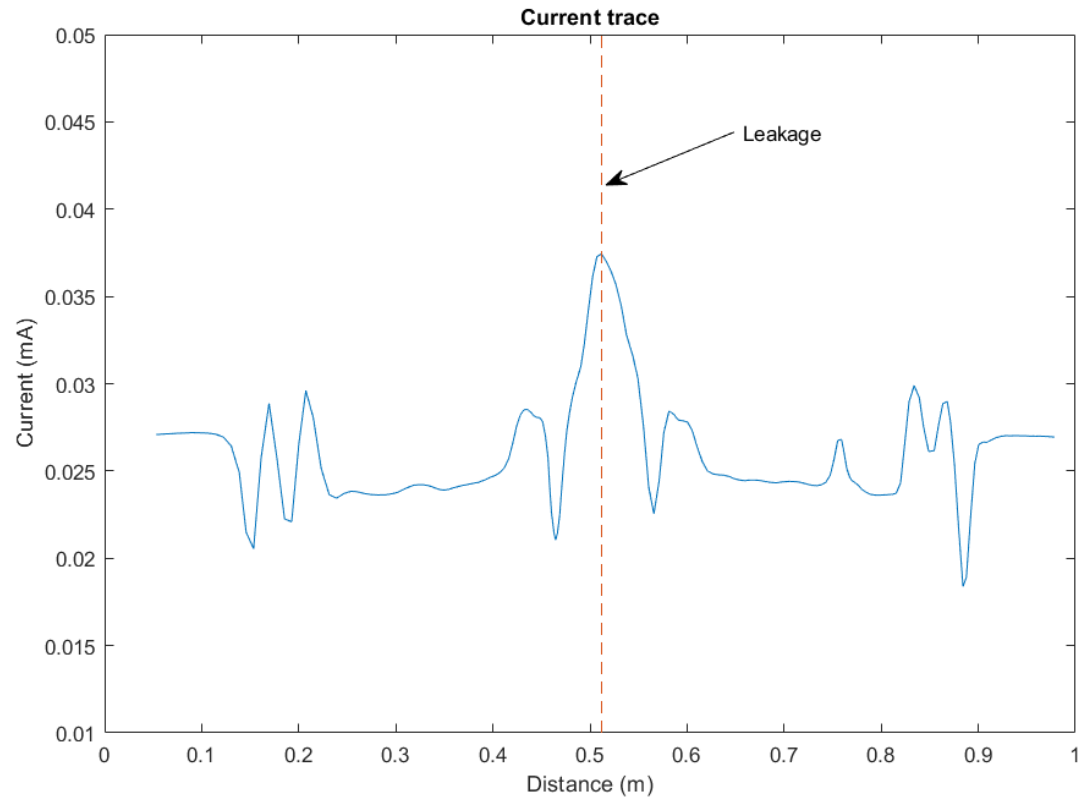
FELL



FELL



FELL



FELL

- Planned experiments
 - Groundwater level
 - Leakage size
 - Drag speed probe
 - Position surface electrode

Questions?