



REGENESIS[®]

Two case studies demonstrating in situ groundwater PFAS remediation within high concentration source areas

Mariangela Donati

Proposal Manager, Mediterranean District

REGENESIS

PFAS

PER- AND POLY-FLUOROALKYL SUBSTANCES

**Management of
Environmental & Health Risks**

June 17, 18, 19 & 20, 2025 – Paris

PFAS Source Zone Treatment

Talk outline:

1. The anatomy of a PFAS Source Zone
2. Zones within zones – what needs to be treated where
3. SourceStop Technology introduction
4. Usage scenarios
5. Lab-scale tests
6. Pilot trials
7. Full-scale examples

Understanding PFAS Source Zones

PFAS Source Zones: Vadose Zone

PFAS accumulates in the upper vadose zone mostly due to solid phase and air water interfacial adsorption

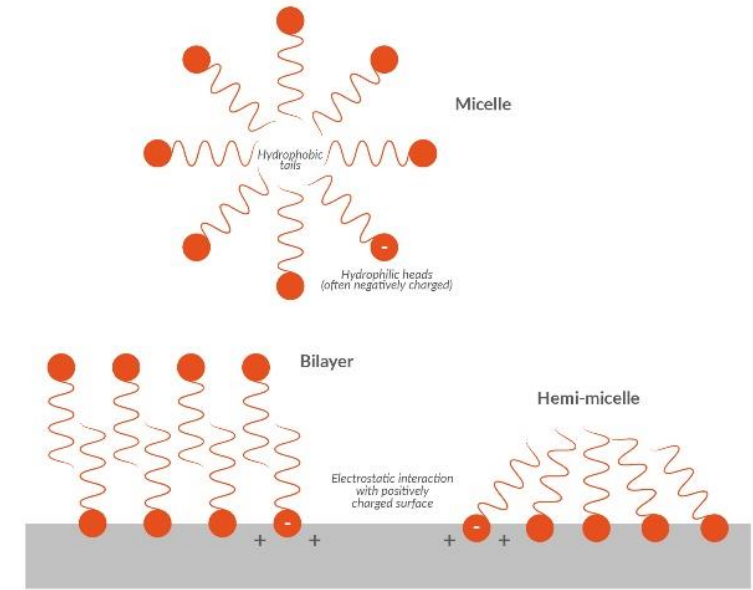
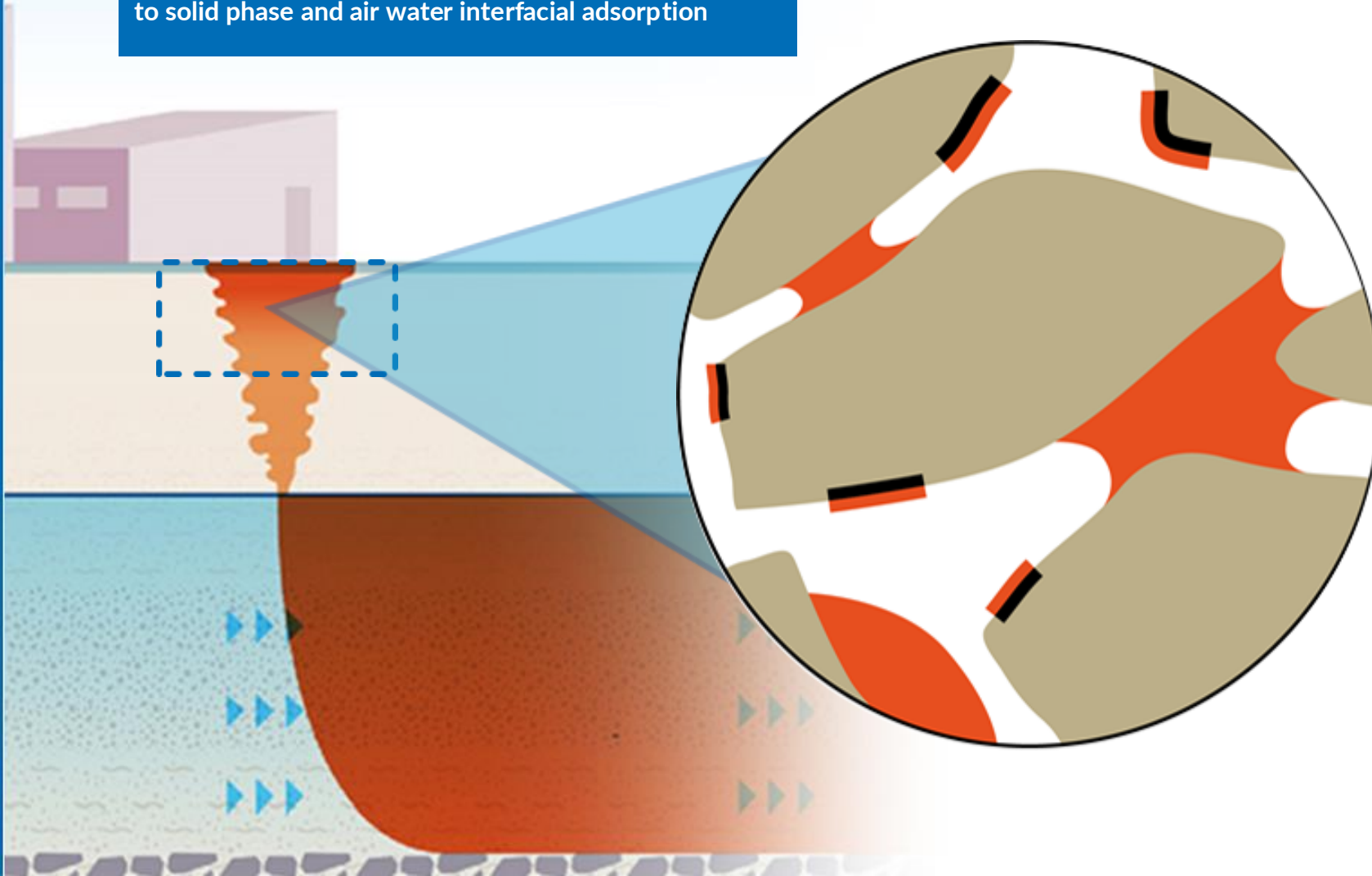


Image source: ITRC

- Soil particle
- Air
- Natural occurring carbon (FOC)
- PFAS-contaminated water

Understanding PFAS Source Zones

PFAS Source Zone: Capillary Fringe and Groundwater

Accumulation in capillary fringe due to air water interfacial adsorption

Source zones discharge =

- local high concentrations
- plume development

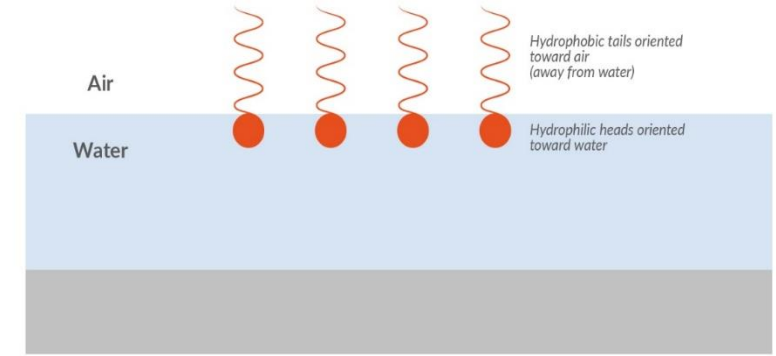
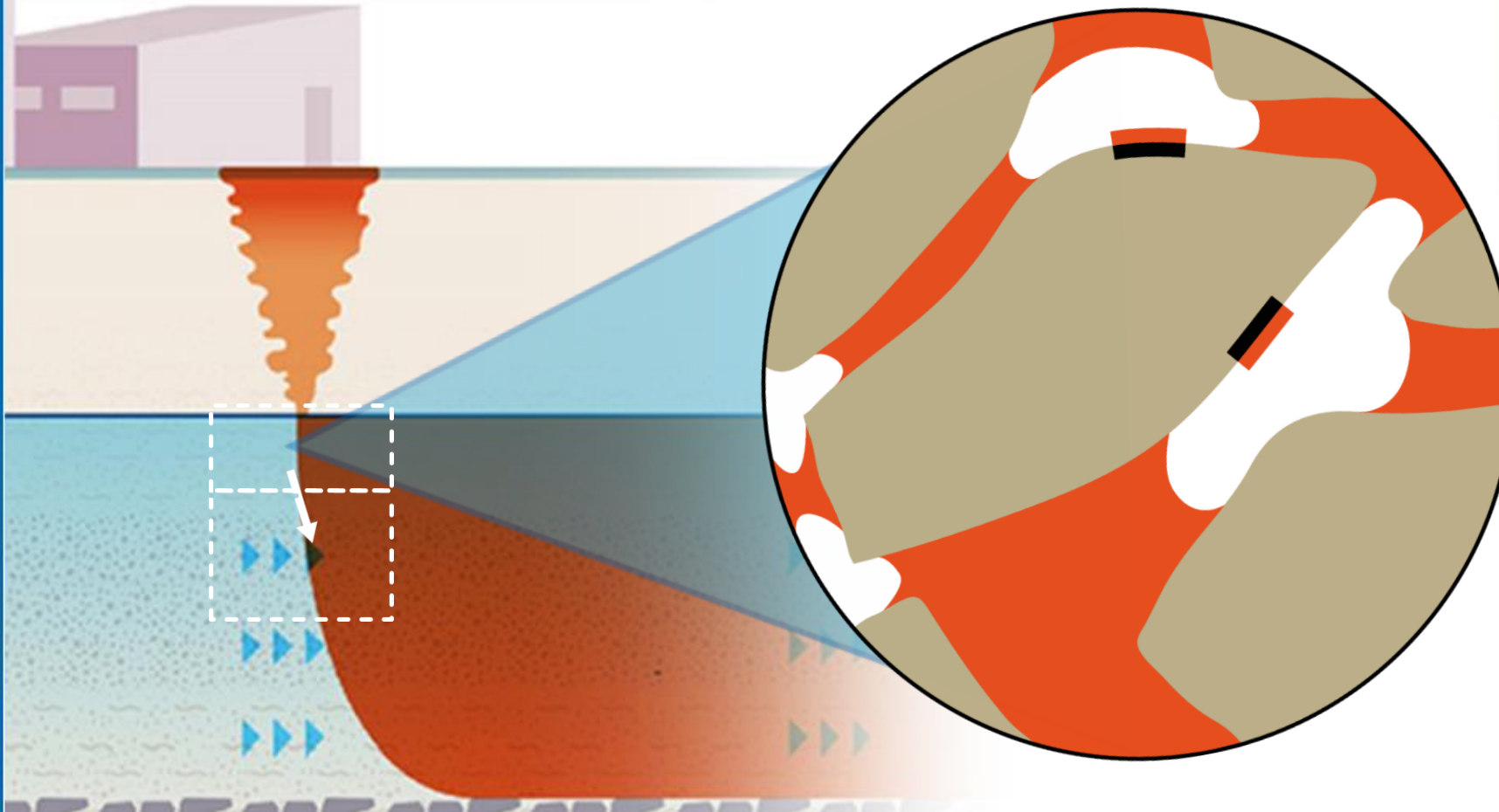


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Full-Spectrum Remediation for PFAS

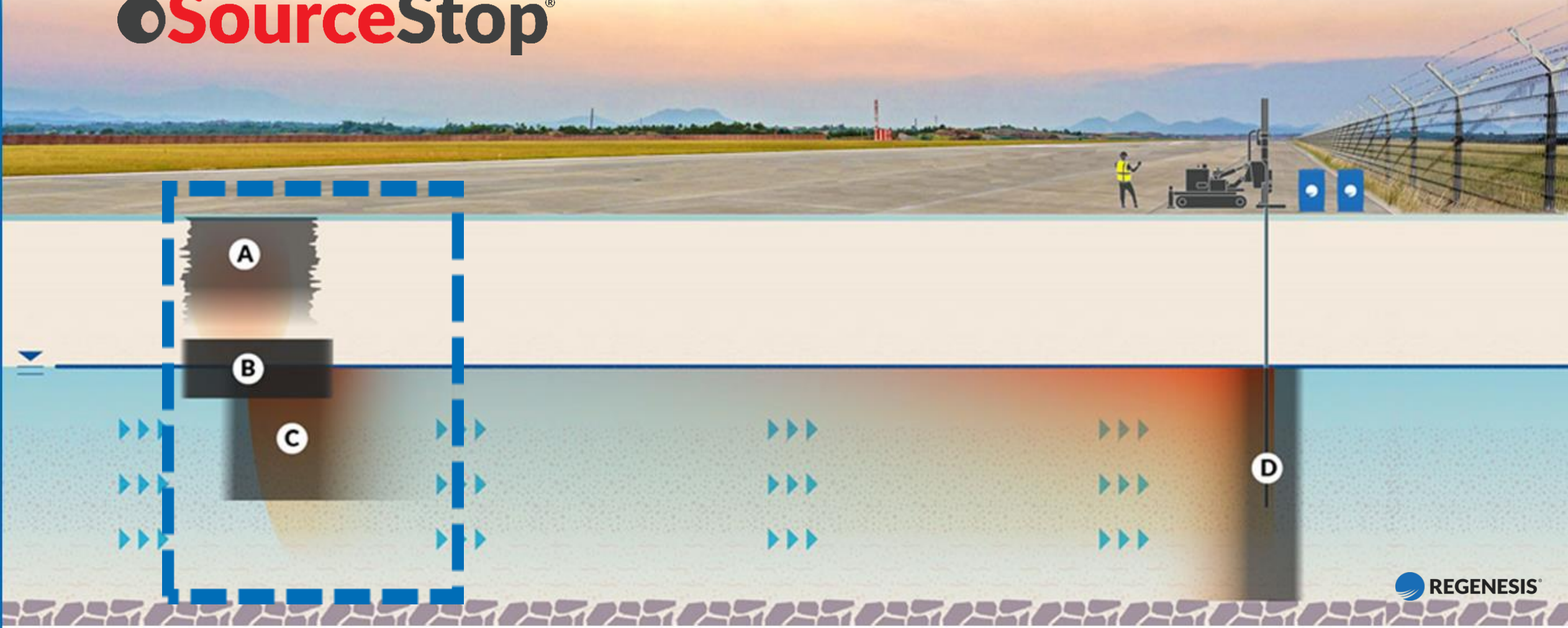
SourceStop®

PLUME STOP®
Liquid Activated Carbon



Full-Spectrum Remediation for PFAS

 **SourceStop[®]**



PFAS Source Zone Treatment



- Stabilizes PFAS source areas
- Reduces leaching of soil contamination
- Halts migration of PFAS in groundwater

Available in two formulations:



Liquid



Solid

Both use REGENESIS' Colloidal Activated Carbon

Distribution and Coating

- When mixed into moist soils:
 - Colloidal Activated Carbon released
 - Enhancing distribution
 - Penetrating and coating soils
 - Important for silty/clayey soils
 - Rapidly effective
 - Easy visual confirmation minimizes mixing time and cost



The background of the slide is a solid blue color. Overlaid on this is a dark silhouette of a construction excavator, positioned in the center-left. The excavator's arm is raised, and its bucket is open. The overall image has a professional, industrial feel.

Application Approaches & Usage Scenarios

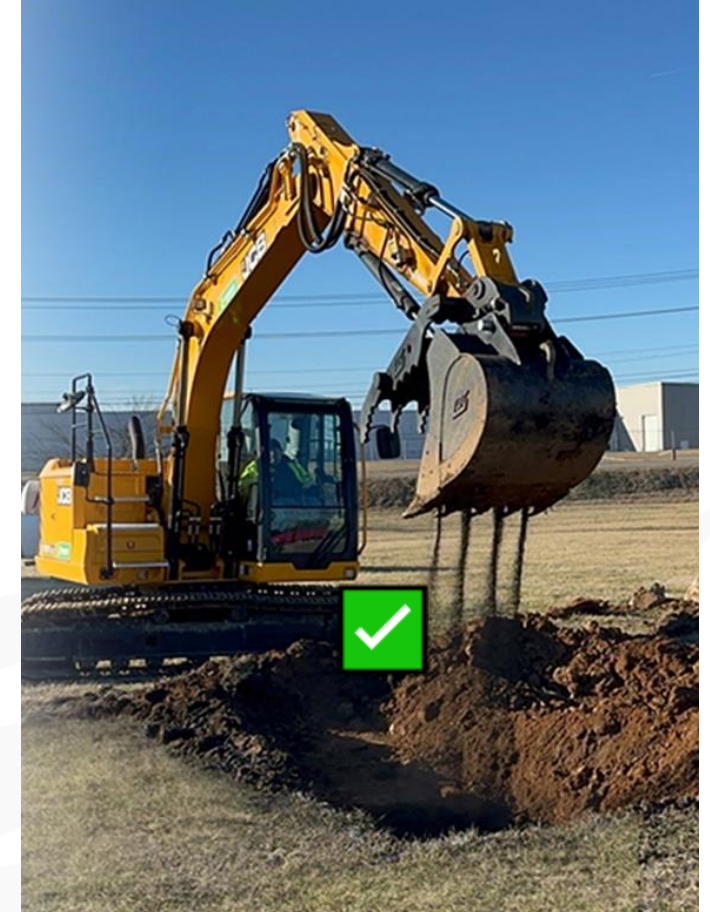
Dust Minimization

- **Designed to minimize dust**
 - Safe and easy handling
 - No mess
 - No need for dust suppression

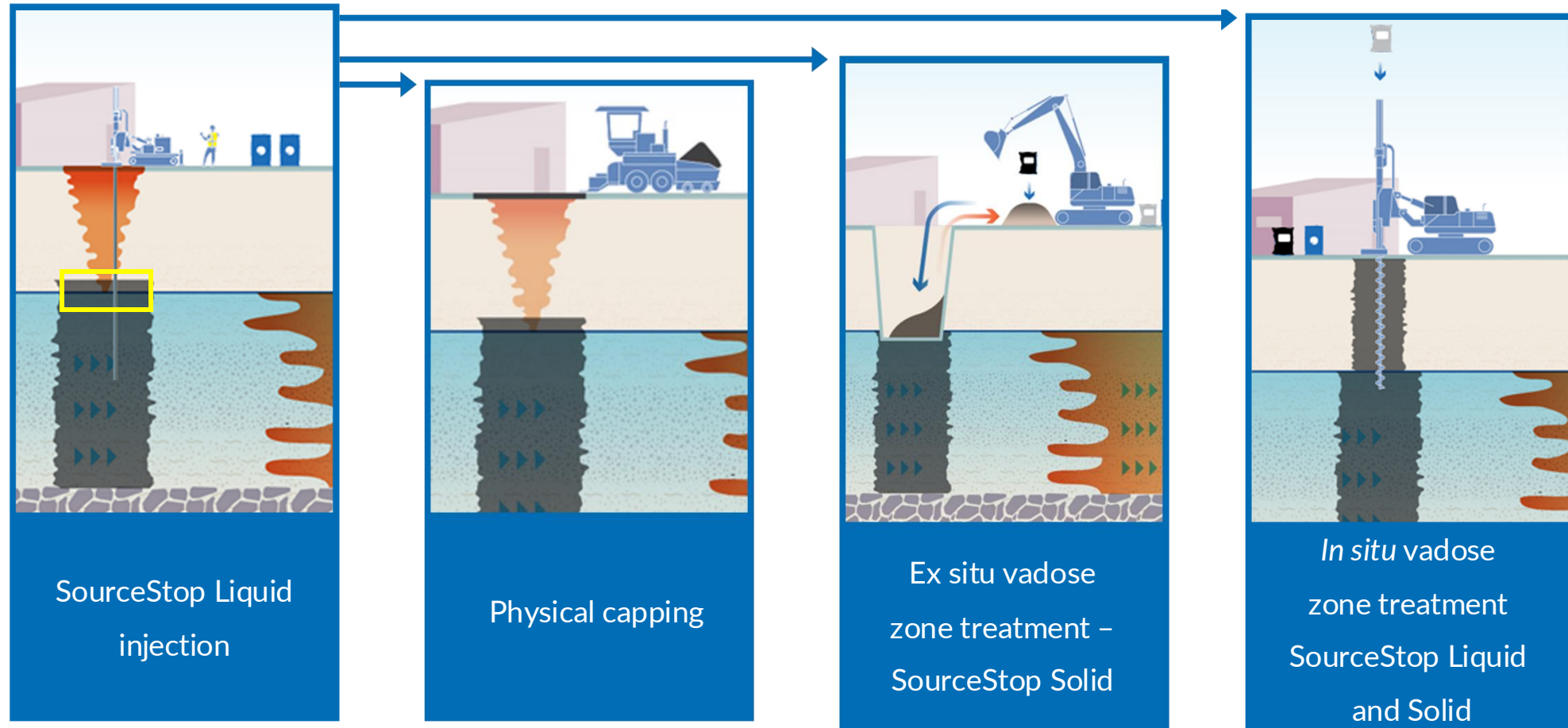
Engineered to avoid this:



To provide this:

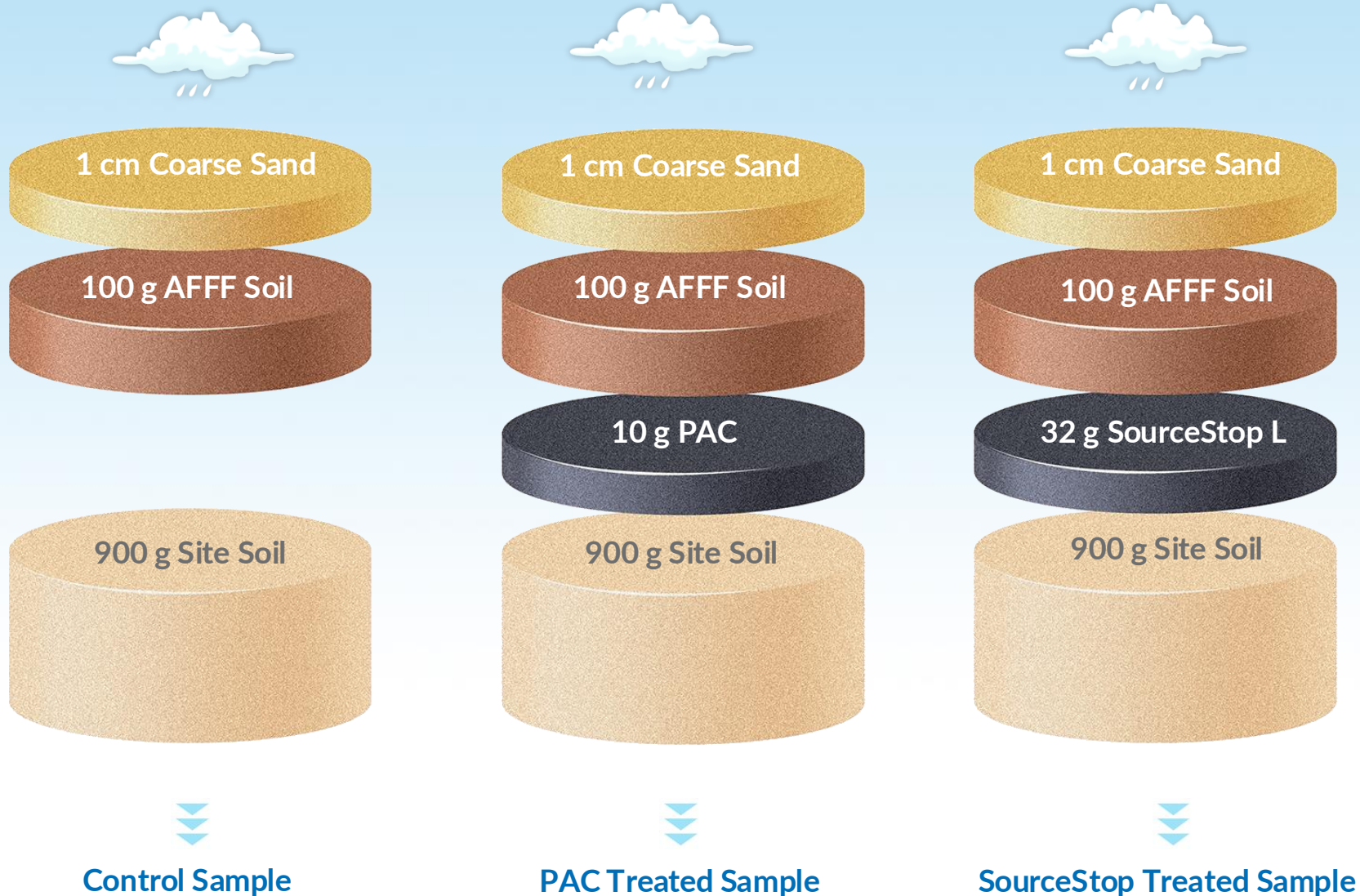


Source Treatment Options



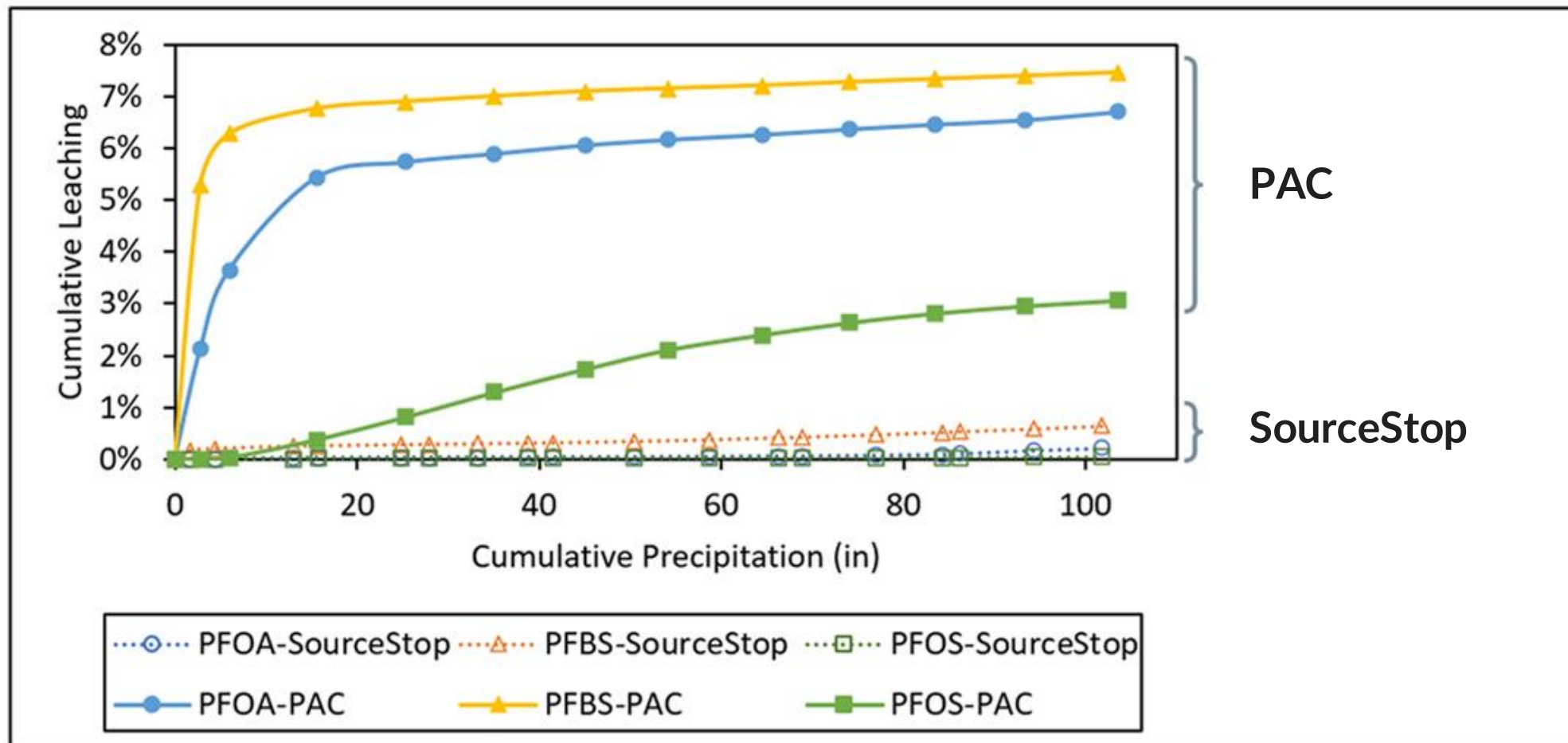
Laboratory Testing

Demonstrating the Benefits of CAC



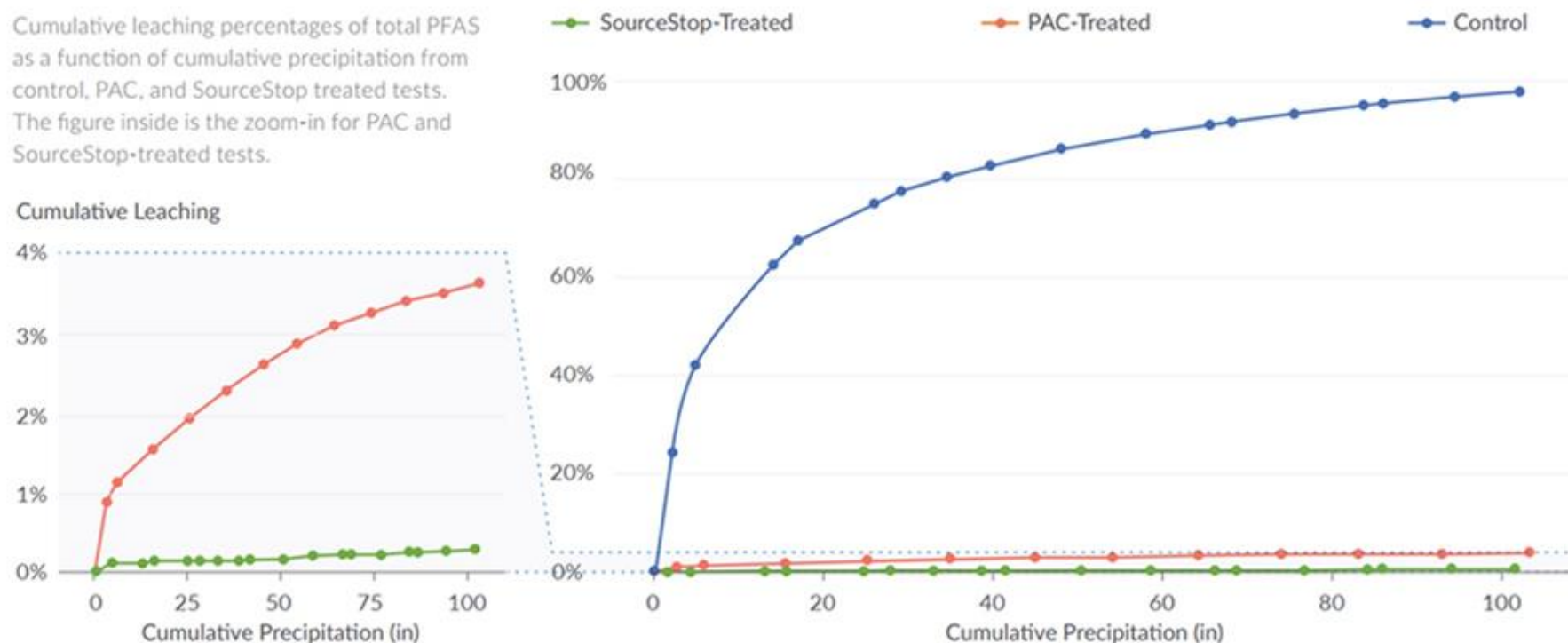
Infiltration and Leaching Simulation

PAC and SourceStop



Infiltration and Leaching Simulation

Cumulative leaching percentages of total PFAS as a function of cumulative precipitation from control, PAC, and SourceStop treated tests. The figure inside is the zoom-in for PAC and SourceStop-treated tests.

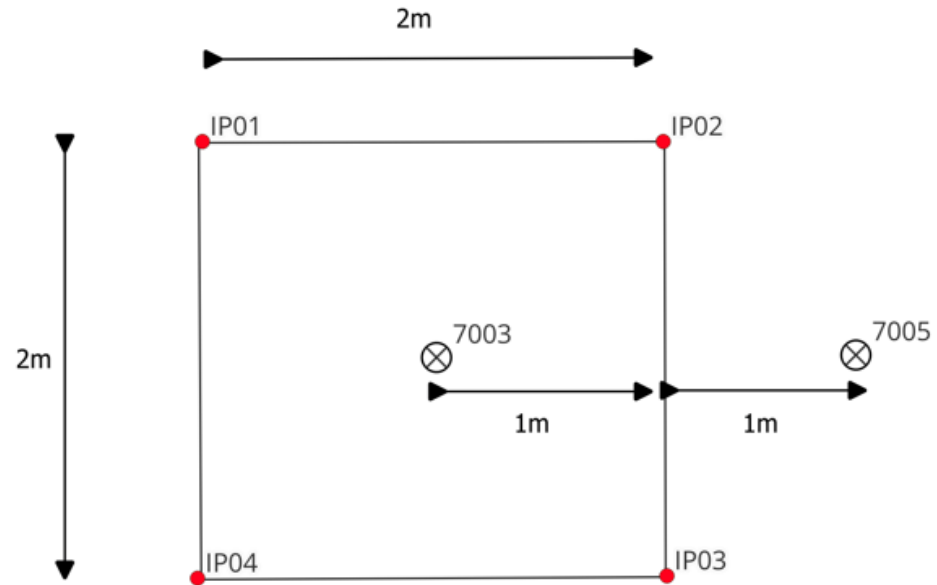


- Leached mass was reduced to 0.3% using SourceStop
- SourceStop reduction Order Of Magnitude >> PAC due to particle size
- Effective across a range of PFAS compounds

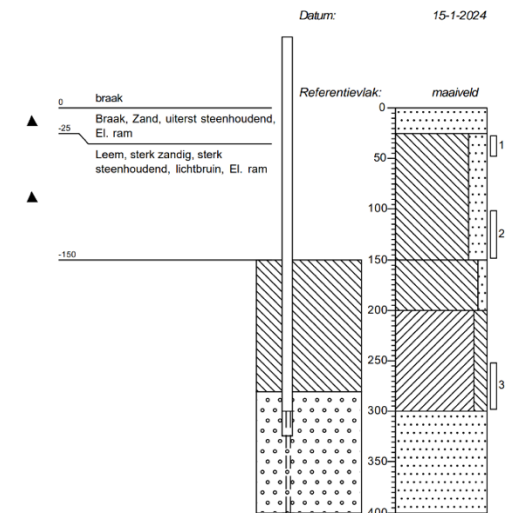
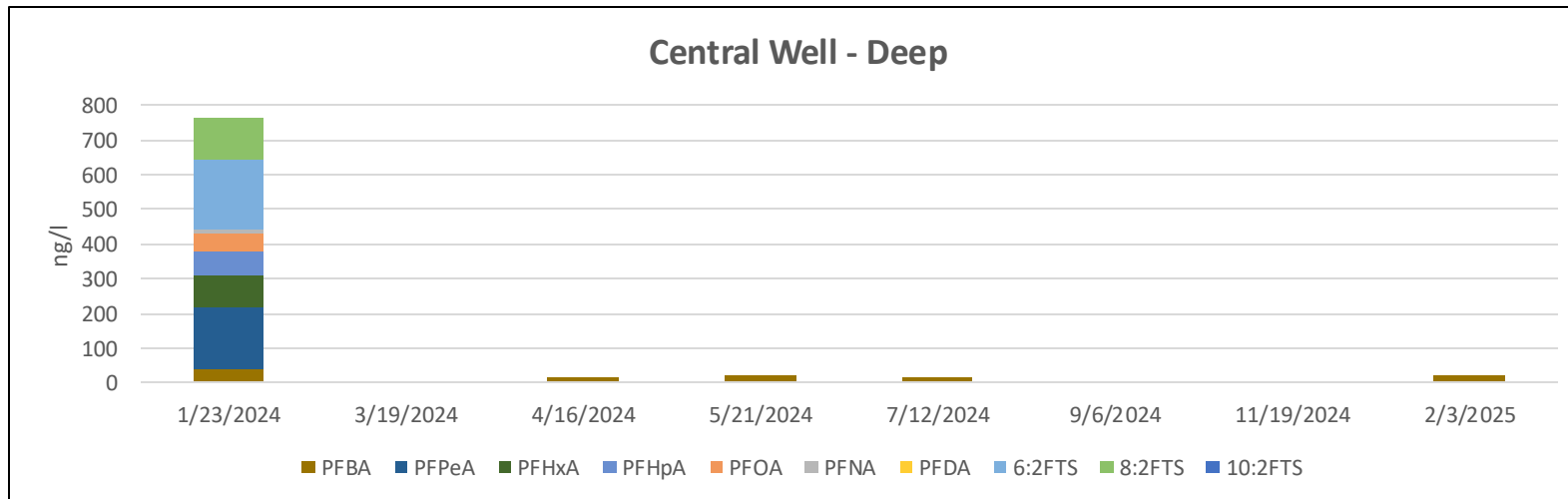
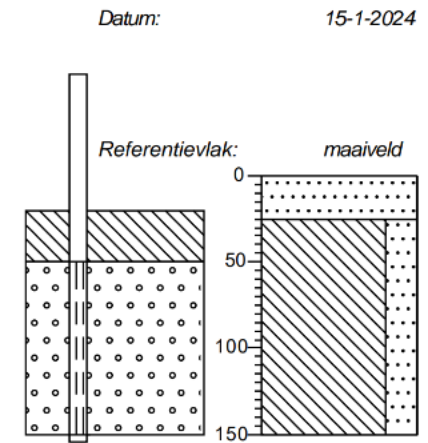
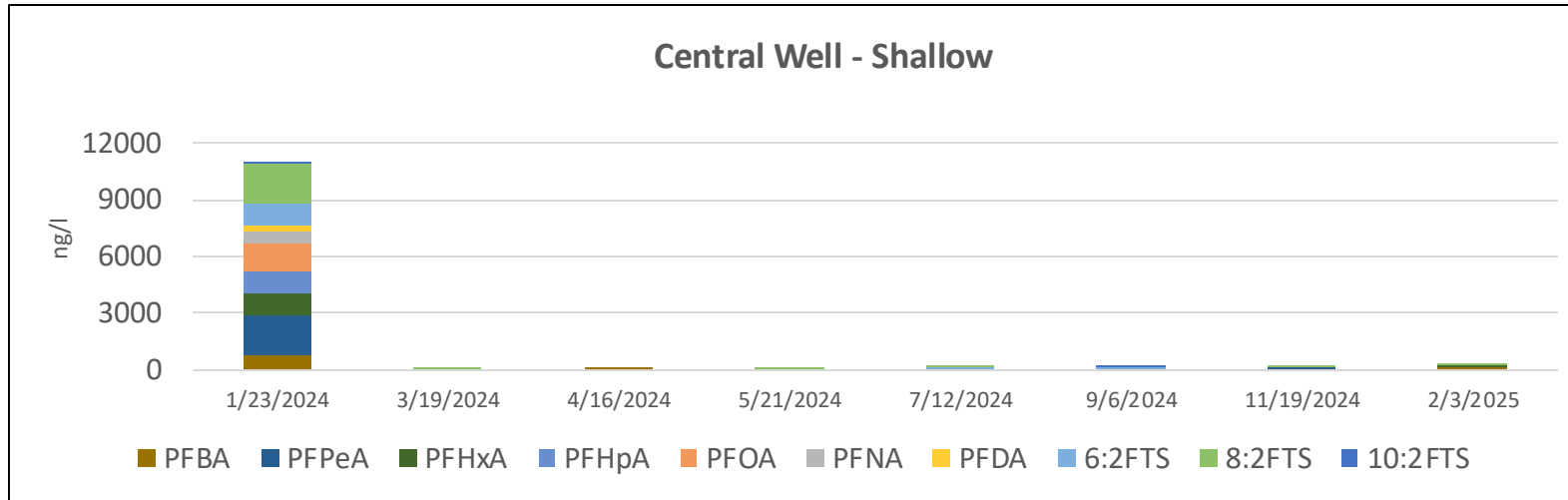
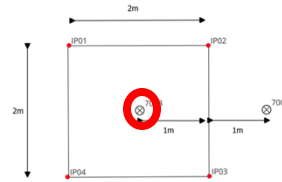


Pilot Studies

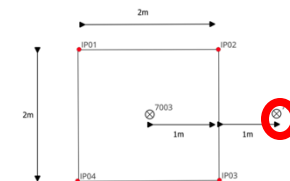
Source treatment – Belgium (Pilot)



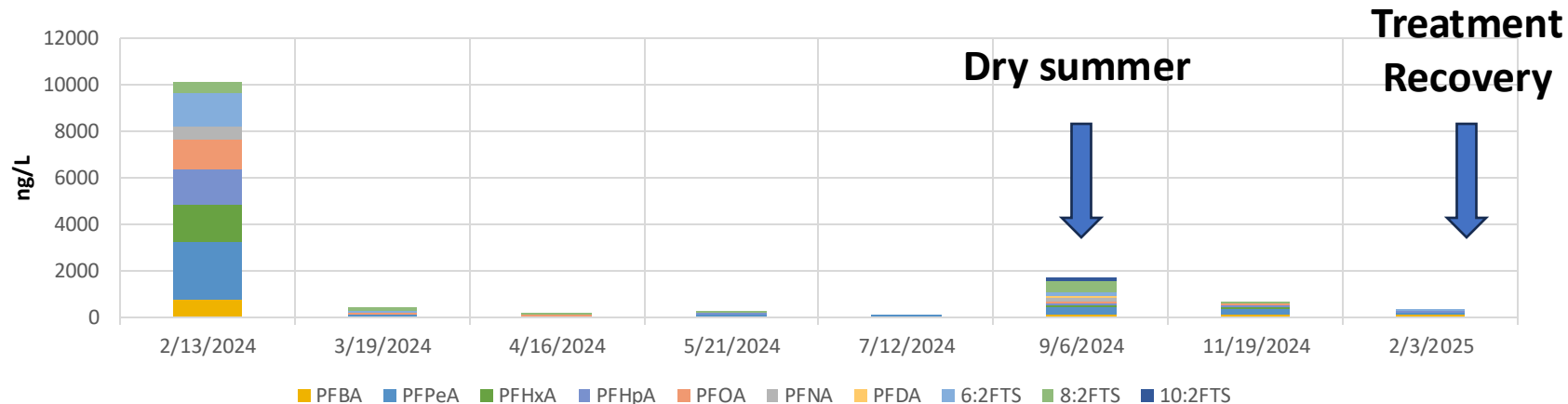
Source treatment – Central Well Results



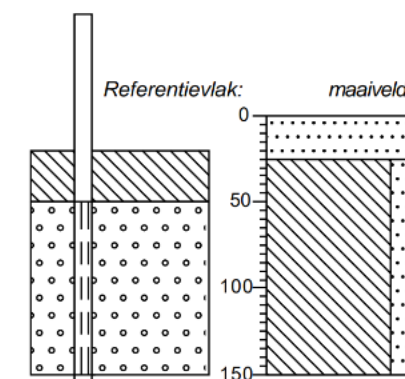
Source treatment – External Well Results



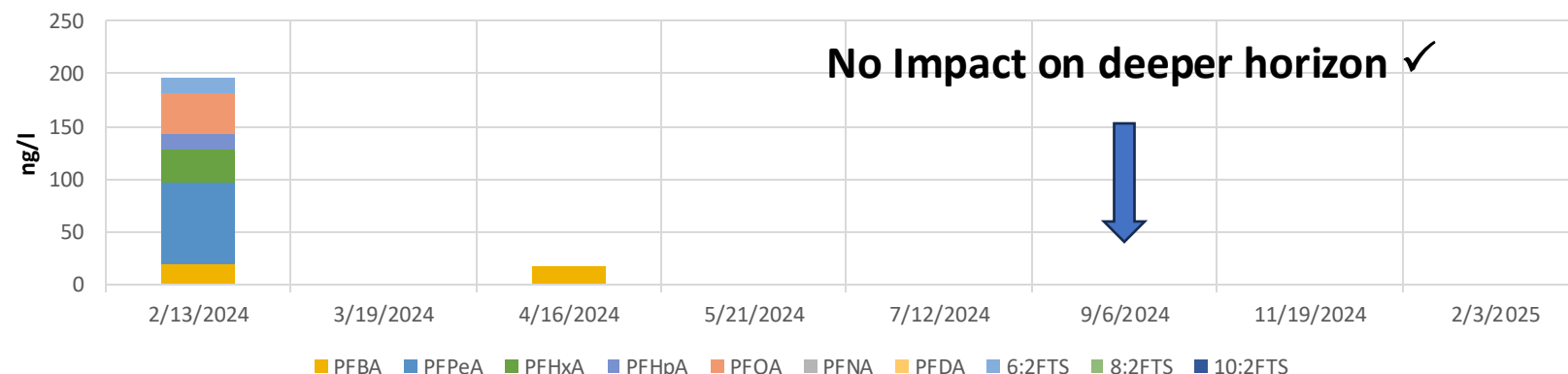
Shallow Well – External



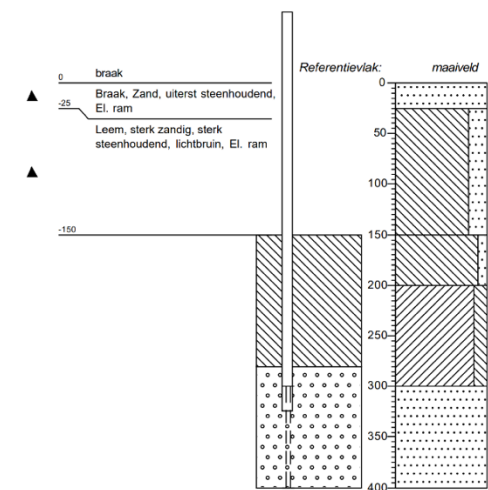
Datum: 15-1-2024



Deep Well – External



Datum: 15-1-2024



Full Scale Application – Trenching

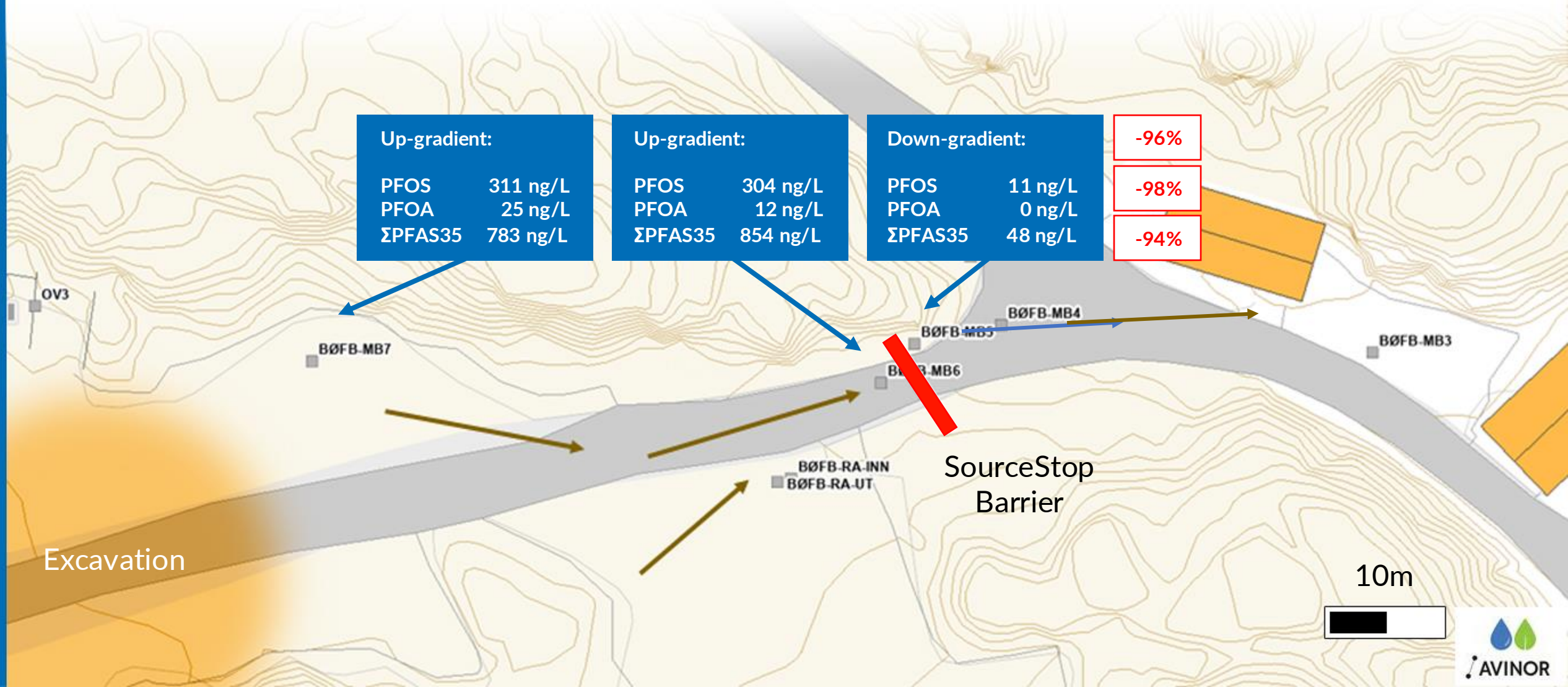
Field applications

Trench Application – Norway



Norway Results

Mean concentrations – monthly sampling over 9 months post application



Summary

Emerging as the default solution for PFAS contaminated sites

- Adaptable technology which can be used in a variety of settings
- Proven to achieve and maintain EPA MCLs
- No PFAS waste generated
- Taken from lab to commercial scale



Questions?



Mariangela Donati

Proposal Manager,
REGENESIS

mdonati@regenesisis.com