

PFAS CHALLENGES FROM AN ENVIRONMENTAL PROFESSIONALS PERSPECTIVE

Why are PFAS so challenging?

Perfect Storm....

- Reported low toxicity, bioaccumulation
- Widespread use
- Do not degrade naturally

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Regulatory Uncertainty...

- Not a Federal hazardous substance or waste, yet
- No Federal enforceable MCLs, yet
- States pushing forward (see DEEP website)

PFAS CHALLENGES: POLLUTION IDENTIFICATION

- Understanding of potential sources constantly evolving
- Field sampling challenges – cross contamination?
- Evolving laboratory methods, potential for never ending loop of new PFAS being added to analytical methods
- New EPA Method 1633, averaging \$400 per sample

PFAS CHALLENGES: RELEASE CHARACTERIZATION

Characterizing nature, degree and extent

- What is a release and what is background...
- Source identification can be a challenge...
- Not possible to delineate to non detect...

Understanding background conditions will be paramount

Contaminant Fate and Transport

- PFAS come in many chemical forms, likely have varying fate & transport properties
- Early studies suggest tendency to accumulate at water table

**PFAS
CHALLENGES:
REMEDIAL
PLANNING**

How clean is clean?

Lack of toxicity information

Lack of clean up criteria or evolving clean up criteria for the small number that exist

Currently need to remediate to background due to lack of clean up standards to reach closure

PFAS CHALLENGES – REMEDIATION



Waste disposal methods still being deliberated...

Waste Liquids/Solids/ Soil:

Stabilization/landfilling common

Thermal destruction?

Groundwater:

Treatment with granular activated carbon, resins, blending all successful



Waste Characterization Questions...

Wide-spread occurrence, how address if its background

Limited landfill space



Groundwater treatment to non detect prior to discharge....

Possible but at what cost?

Measure by percent mass removed instead of concentration?

Other substances can affect efficiency

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QUESTIONS