

Floodplain Pilot Study Update

Carbon Amendment of Floodplain Soil

AOC 4, Former DuPont Waynesboro Site, Virginia

Agenda

- Background
- Phase II Overview
- Phase II Progress
- Summary



Background

- Methylmercury (MeHg)- Bioaccumulative form of mercury
- Use of carbon amendment
- Integration for remedial design
- **Floodplain Pilot Study Objectives:**
 - Test effectiveness of carbon amendments
 - Evaluate for potential unintended consequences



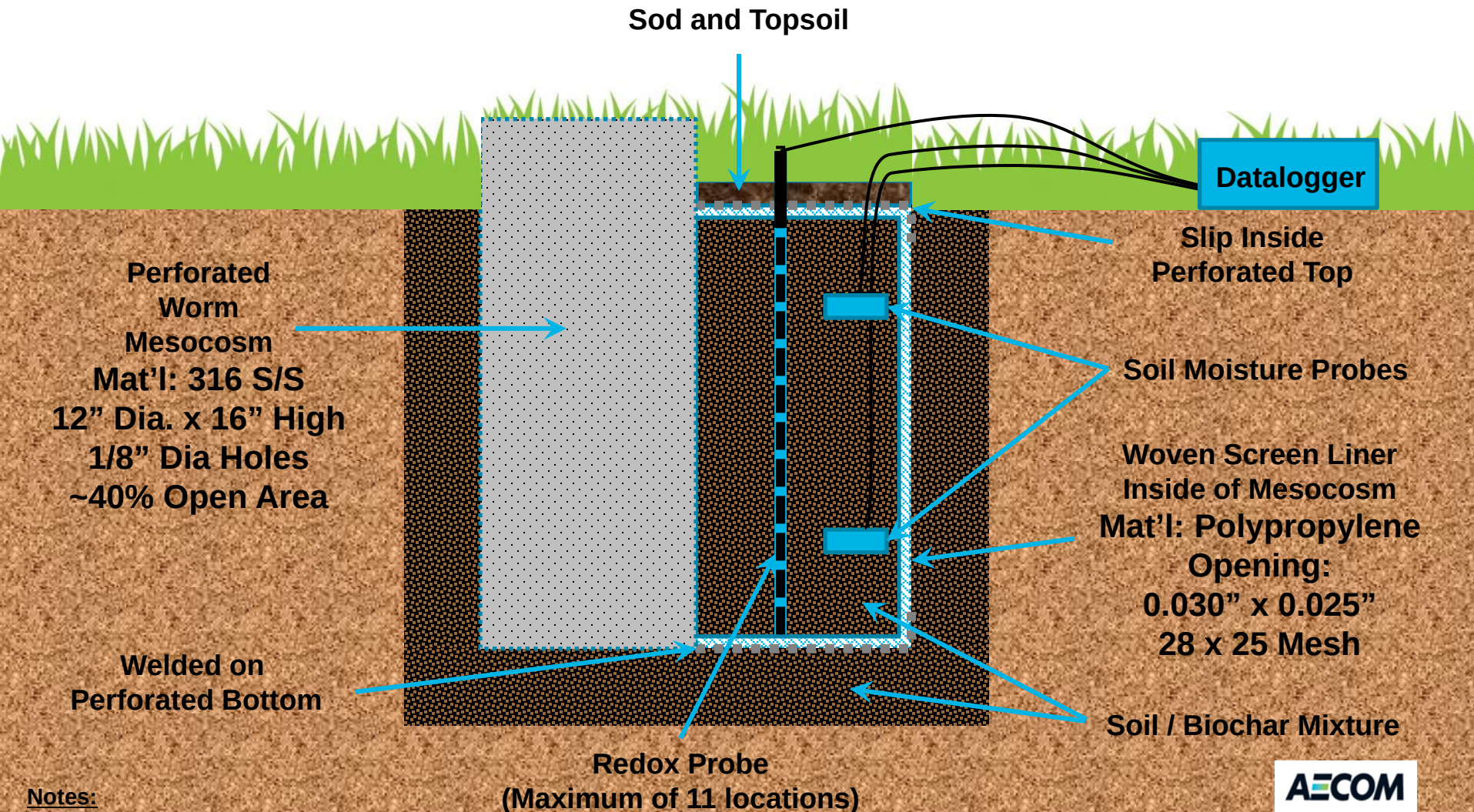
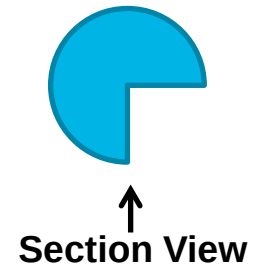
–Study Phases:

- Phase I: Laboratory Pilot (Completed 2014)
- Phase II: Field Pilot (Spring/Summer 2015)
- Phase III: Field Application (*Pending* 2016)

Phase II Overview

- Objective**- Validate the effectiveness and potential unintended consequences of using carbon amendments *in situ*
- Study Location**- RRM 11.8 (Augusta Forestry Center)
- Study Design**
 - Biochar amendment - 5% and 10% (unsaturated and saturated)
 - *In situ* mesocosm exposure cages
 - *In situ* soil moisture and redox potential monitoring
 - Earthworm survivability, growth, reproduction, and Hg bioaccumulation

Phase II Overview- Mesocosm Cage Design



Notes:

Dia = diameter, S/S= Stainless Steel

Phase II Progress- Mesocosm Cage Deployment (May)



Phase II Progress- Earthworm Deployment (August)



Phase II Progress- Soil Geochemistry Monitoring Equipment Deployment (August)



Phase II Progress- Remaining Events

-Week 4

- Sample adult earthworms and soil; return juveniles to mesocosm cages (if available)

-Week 8

- Sample juvenile earthworms (if available) and soil

-Decommissioning

- Details TBD



Summary

- Mesocosm cage, earthworm and soil geochemistry monitoring equipment deployment are complete
 - Baseline soil/ resident earthworm as well as Week 0 soil/ reference earthworm analytical results are pending
- Remaining sampling events- Week 4 and Week 8
- *In situ* ORP datalogger replacement is pending
- Data evaluation/reporting
- Decommissioning of the Pilot Study area?
- Phase III?



Questions?