

# Promoting Beneficial Use: Technology Needs

Presented by

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Contaminated Sediment  
Beneficial Use Workshop

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Randle Reef Remediation, Ontario  
(Source: Environment Canada)



Sydney Tar Ponds, Canada (Source: AECOM)



Mirror Lake, Delaware (Source: Upal Ghosh, UMBC)

# Beneficial Use Options



## By-Products

*Bricks, Aggregates,  
Manufactured fill, etc.*



## Resiliency & Restoration

*Habitat enhancement,  
Shoreline protection*



## Reclamation

*Brownfields  
redevelopment,  
terminals, new land, etc.*



## Learning opportunity

*For innovative  
applications (clay dikes,  
noise barriers, etc.)*

# Beneficial Use: Process Options

- Physical stabilization
- Chemical immobilization
- Bioremediation
- Phytoremediation
- Thermal desorption
- Sediment washing / Sand separation
- Offsite disposal
- Incineration?



Atlantic Wood Industries (Source: USEPA)



Island End River (Source: Sevenson Environmental)

# Beneficial Use: Technical Needs

- Defining what is acceptable?
  - Depends on end use
    - COC types, contaminant levels
- Performance criteria
  - Strength, Permeability, Leaching, other?
- Treatment requirements?
- Reagents and dosing?



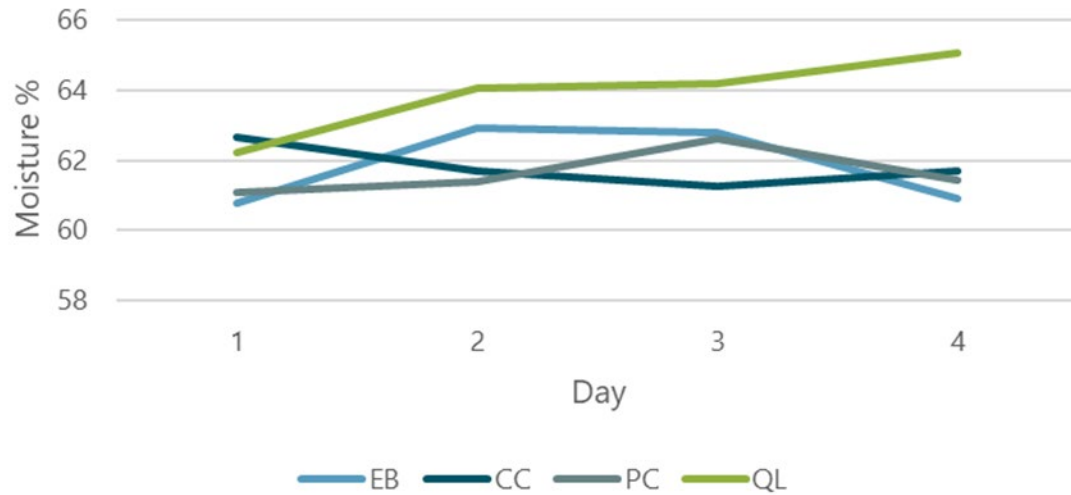
SediMite in situ placement, Paradise Creek



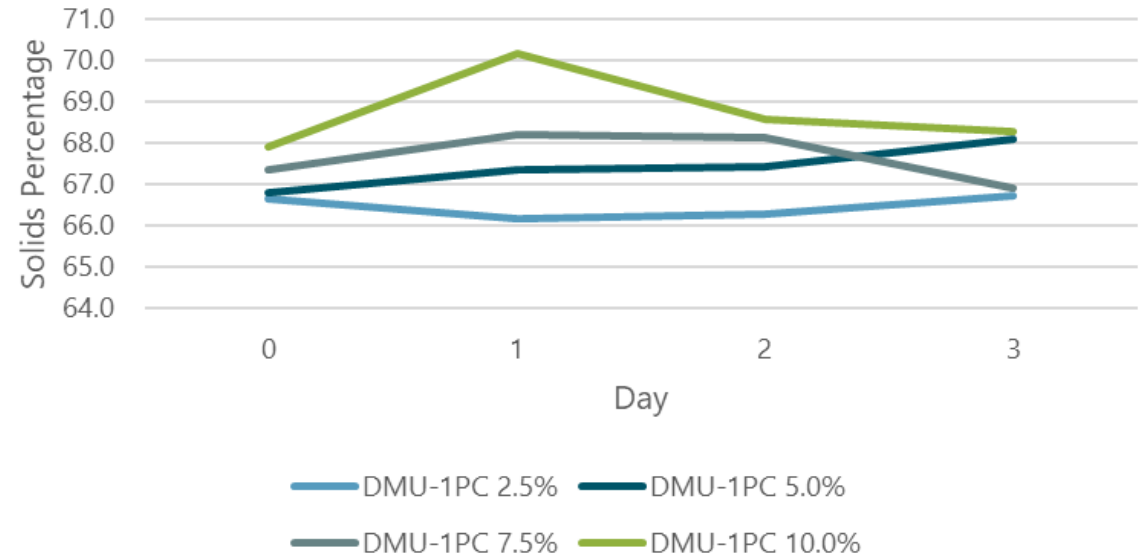
Gulf Coast Site, Wetland Development  
(Source: Severson Environmental)

# Amendment Performance Charts

Solids Percentage of Several Amendments Compared with 5% Mix



DMU-1 PC



Dewatering Agents: EnviroBlend (EB), Calciment (CC), Portland cement (PC), quicklime (QL)

# BU: Technology Needs

- Passive sediment sorting
  - Sediment separator
  - Sediment distribution pipe
- In-line mixing
- Controlled sediment placement
- Innovations in mixing tools?
- Other?

*If you specify what should be accomplished (in terms of performance metrics), a contractor can usually build it, given sufficient lead time*



Ninigret Pond mechanical excavator (J.F. Brennan)



Pneumatic Flow Tube Mixing  
(Tipping Point/Eric Stern)



Source: Sediment Separator—Streamside Technology

# Questions?

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