Welcome to the Workshop!!

*In Situ* Treatment Technologies for Contaminated Sediments

RTDF Sediment Remediation Action Team

2/18/2004
Goals of the Workshop

Learn & share experiences about applications

Highlight research & development activities

Capture the state-of-development

Think about collaborative efforts of broad interest (lead to field work??)
Why the interest/focus?

- Cost
- Demonstrated to be a viable option
- Potential to address limitations of other cleanup methods – MNR, capping, and removal
- Programs involving remediation development/testing supporting *in situ* treatment applications
- Recent start-up/completion of R&D projects
Approaches of *In Situ* Treatment

- **Biological**
  - Microbial degradation
  - Addition of oxygen, nutrients, microorganisms

- **Chemical**
  - Destruction (e.g., oxidation or dechlorination)
  - Addition of permanganate, hydrogen peroxide, potassium hydroxide

- **Immobilization**
  - Encapsulate and/or reduce solubility, mobility, or toxicity
  - Addition of cement, limestone, carbon-sources
What’s been said?

- Assessment and Remediation of Contaminated Sediments Program (1994)
  - Applications small scale at a few sites
  - Limited data on feasibility, design, & implementation
  - State of design “nonexistent”
  - “Few proponents” cited as a limitation
- RTDF Workshop (2000)
  - Increasing interest on this topic
  - Several new approaches/areas uncovered
Workshop Format

- Presentations
  - Learn about applications
  - Highlight R&D activities
- Group Discussions
  - Share experiences
  - Think about collaborative efforts
- Address key questions
  - Capture the state-of-development
Example Programs for Possible Leveraging

- Great Lakes National Program Office – EPA
  - Great Lakes Legacy Act of 2002
  - www.epa.gov/glnpo
- Superfund Innovative Technology Evaluation (SITE) Program – EPA
  - www.epa.gov/ORD/SITE
- Strategic Environmental Research & Development Program (SERDP) – DOD
  - www.serdp.org
- Environmental Security Technology Certification Program (ESTCP) – DOD
  - www.estcp.org
Workshop “Housekeeping” Items

• Changes to the agenda
• Presentations
  – Clarification questions first, followed by comments
  – “Overflow” in Group Discussions
• Group Discussions
  – Charting of ideas/experiences
  – Everyone gets a chance to speak
• Please keep on schedule!!
Questions

• Description
  – What is the basic approach of the technology?
  – What environmental/technical factors most influence the suitability of the technology (e.g., contaminant(s), site type)?

• Application
  – What stage of development? If evaluated under bench-scale, how close to large-scale field application?
  – Where has the technology been applied?
  – What are the performance results and cost of prior applications?
  – What are the implementation considerations?

• Observations
  – What were some lessons learned from previous applications?
  – What are the most promising aspects?
  – What should be measured and monitored to assess performance efficacy?

• Future Direction
  – What are some obstacles for further development/use (e.g., funding, science, partnerships)?
  – How can we measure/track success of new developments?