ITRC Implementation Workshop

“Mine Waste Treatment Technology Selection”

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Mine Waste – A Burning Issue
Mine Waste Treatment Technology Selection - Why?

- **Issues**
  - Mining practices
  - Lack of mined land reclamation and restoration laws

- **Needs**
  - Innovative technologies and approaches
  - Solutions for regulatory barriers
Overview

- Web-based, quick tool to identify appropriate technologies
- Applies to all potentially affected media
- Access to case studies
- Includes technology overviews
- Reference tool for personnel
- Describes potential regulatory constraints
- Helps streamline/expedite selection process.
- Applicable information for state, federal, industry and stakeholders
Advantages of Web-based Approach

- Interactive
  - Easy to navigate

- Graphics
  - Color images, photos, etc can be used for illustration

- Flexible
  - Easier to update site as new information or case studies become available
Tech-Reg Content

Innovative!!

Web-based Tech-Reg Document

• Overview
• Decision Trees
• Technology Overviews
• Case Studies
• Regulatory Issues
• Stakeholders Concerns
• Additional Resources
Steps to Achieve Impact

- Promote use of this guidance and FREE Internet-based training to:
  - ITRC POC staff, site owners, consultants, technology vendors, and stakeholders

- Present information at future seminars, brown bags, and conferences

- Provide your state’s concurrence on the guidance document

- Report to ITRC, via your state POC, any successes or concerns related to this guidance
## Where Tech-Reg Will Provide Impact

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<th>EXPECTED USER GROUP</th>
<th>INTENDED USE</th>
<th>BENEFIT TO BE RECEIVED BY USERS</th>
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| State and Federal Regulators and Project Managers | • Quick tool to support decisions using technology overviews supported by case studies  
• Good reference tool | • Save resources  
• Offers a framework for a strategic approach to site remediation  
• Technologies not only applicable to mining |
| Consultants and Industry                   | • Select technology (ies)  
• Central repository of information | • Save resources  
• Offers a framework for a strategic approach to site remediation |
| Stakeholders                               | • Provide background information; case studies and technologies               | • Help to achieve greater understanding of important issues, success and goals. |
| Technology Vendors                         | • Provide overview of innovative technologies related to specific case studies. | • Help to provide innovative ideas for future technologies based on case study success.  
• Technologies not only applicable to mining |
Decision Trees – Getting Started

Mining Waste Team Decision Tree—Initial Questions

Do you need to take an action immediately or do you have a longer time period to implement your action?

>2 years

Immediate Decision Tree

<2 years

Long-term
Do you have a Solid Mining Waste or Mining-Influenced Water Problem?

Solid Mining Waste Decision Tree

Mining-Influenced Water Decision Tree
Immediate Decision Tree

- Navigation aids
  - Titles
  - “You are here” diagram
Technology Overviews

Focus

- Information on newer technologies
- Novel uses of conventional technologies
- Provide case studies and additional references
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* ITRC has guidance documents
Case Studies

- Site Information
- Remedial Actions and Technologies
- Performance
- Cost
- Regulatory challenges
- Stakeholder Challenges
- Other Challenges/Lessons Learned
- References
Case Study Distribution

Total of 59 Case Studies
(as of August 2010)
Regulatory Issues

- Discuss regulatory issues and challenges related to
  - Water quality
  - Solid mine waste

1.0 Regulatory Issues/Challenges

The ITRC Mining Waste Team searched statutes, regulations, or policies that impede or slow the use of new technologies in the reduction of threats to human health and the environment related to mining waste. During the investigative process, the team has searched for a variety of solutions to these barriers and recommend ways to overcome them. ITRC’s experience in past projects suggests that statutory and regulatory barriers often do not exist since exceptions, variances, or waivers are available. Even so, these are time-consuming, costly, uncertain, and biased toward existing or conventional technologies. This bias is part of what we are trying to overcome to allow new technologies to be tested, demonstrated, and earn an appropriate place in the toolbox of environmental professionals. The Mining Waste Team has identified the following issues.

1.1 Issue #1: Water Quality Standards

A barrier to the use of an innovative technology is the ability to consistently meet all ambient water quality standards. For example, wetland treatment systems almost always provide treatment but may not always consistently meet numeric water quality standards. To understand how a technology may address a portion of the overall water quality concerns, one must first understand that development of
How Do We Get It Used?

- More than just mining!