Message #97: March 2005

Welcome to TechDirect! Since the February 1 message, TechDirect gained 316 new subscribers for a total of 21,338. March 2005 begins our ninth year producing and distributing TechDirect. When we began this effort in March 1997, we had no idea how well received this service would be. The number of subscribers has far surpassed our expectation - and new subscribers keep rolling in month after month.

If you feel the service is valuable, please share TechDirect with your colleagues. Anyone interested in subscribing may do so on CLU-IN at http://clu-in.org/techdirect . All previous issues of TechDirect are archived there. The TechDirect messages of the past can be searched by keyword or can be viewed as individual issues.

The purpose of TechDirect is to identify new technical, policy and guidance resources related to the assessment and remediation of contaminated soil and ground water.

Mention of non-EPA documents or presentations does not constitute a U.S. EPA endorsement of their contents, only an acknowledgment that they exist and may be relevant to the TechDirect audience.

Upcoming Internet Seminars

ITRC What is Remediation Process Optimization And How Can It Help Me Identify Opportunities for Enhanced and More Efficient Site Remediation? - March 8. Through this training, the ITRC RPO team intends to inform interested and affected parties about the value of optimization in efficiently and objectively setting and attaining remediation goals. Key elements of RPO that will be discussed in the training include: Appropriate use of up-to-date conceptual site models (CSM), Flexible Remedial Actions (RAs) operations considering technology limitations and risk assessments; use of treatment trains for each target zone, and developing performance objectives for each element; development of an exit strategy for each remedy component considering life-cycle factors; and life-cycle cost analysis as a decision-making tool with the requirement that protectiveness must be maintained or improved. For more information and to register, see http://www.itrcweb.org or http://clu-in.org/studio

ITRC Surfactant/Cosolvent Flushing of DNAPL Source Zones - March 10. The purpose of this training is to familiarize participants

with the ITRC Technical and Regulatory Guidance for Surfactant/Cosolvent Flushing of DNAPL Source Zones (DNAPL-3). This document provides technical and regulatory information to help practitioners understand, evaluate and make informed decisions regarding potential surfactant/cosolvent flushing projects. Register to participate at http://www.itrcweb.org or http://clu-in.org/studio .

ITRC Strategies for Monitoring the Performance of DNAPL Source Zone Remedies - March 15. This training discusses issues surrounding the assessment of remediation performance at DNAPL sites where the source zone is being targeted for treatment. It is based on the ITRC document titled "Strategies for Monitoring the Performance of DNAPL Source Zone Remedies." Specific issues dealing with monitoring the performance of various DNAPL source zone remediation technologies are discussed. Performance is discussed in terms of effective and efficient progress toward the project goals. Elements of a robust performance monitoring program are described including the need to establish appropriate performance goals and metrics well in advance. To register, see http://www.itrcweb.org or http://clu-in.org/studio . While some issues pertaining to DNAPL fate and transport are covered in the document, participants are encouraged to review the material presented in the UK Environment Agency's "An illustrated handbook of DNAPL fate and transport in the subsurface" prior to taking the course. The handbook is available for download at http://www.clu-in.org/conf/itrc/dnaplpa/dnapl_handbook_final.pdf .

New Documents

A Compendium of Chemical, Physical and Biological Methods for Assessing and Monitoring the Remediation of Contaminated Sediment Sites (EPA 600-R-04-108). This document, prepared by EPA's Office of Research and Development, summarizes chemical, physical, and biological (toxicity and bioassessment) testing methodologies for monitoring and assessing the remediation of contaminated sediment sites. Methods are presented as fact sheets with hypertext links to access reference documents that often include the complete method description. The document primarily focuses on methods from the published literature or other citable sources used at sites to determine the effects of chemical contaminants on aquatic life and human health (April 2004, 289 pages). View or download at : http://www.epa.gov/nerleerd/108Complete.pdf .

Remediation Technology Evaluation at the Gilt Edge Mine, South Dakota (EPA 600-R-05-002). This report was published by the U.S. EPA Mine Waste Technology Program. This project consisted of evaluating three emerging acidic waste rock

stabilization technologies and comparing those technologies to lime treatment of acidic waste rock. The three new technologies tested were the Silica Micro Encapsulation (SME) Technology from Klean Earth Environmental Company (KEECO), the Passivation Technology from the University of Nevada-Reno (UNR), and the Envirobond Technology from Metals Treatment Technologies (MT2). Performance of the technologies was evaluated as a pilot-scale demonstration by placing treated waste rock into isolated cells at the Gilt Edge Mine and monitoring the leachate collected from the representative cells. The objective of the treatments was to reduce the contaminants of concern by at least 90% or to South Dakota water discharge limits. The three technology vendors also provided a cost estimate to treat a hypothetical 500,000-cubic yard waste rock pile at the Gilt Edge Mine using the pilot-scale data as a guideline (November 2004, 48 pages). View or download at http://www.epa.gov/ORD/NRMRL/pubs/600r05002/600r05002.pdf .

Technology News and Trends - January (EPA 542-N-05-001). This is a periodic EPA newsletter for environmental professionals that features a combination of articles on innovative, in-situ technologies for the characterization and treatment of soil, sediment, and ground water. This issue of Technology News and Trends highlights new analytical methods and innovative cleanup technologies for two emergent contaminants, perchlorate and 1,4-dioxane (January 2005, 6 pages). View or download at http://clu-in.org/techpubs.htm . For hard copies, contact (800) 490-9198 or (513) 489-8190 or fax to (513) 489-8695.

ITRC Overview of Groundwater Remediation Technologies for MTBE and TBA (MTBE-1). This overview document was prepared by the Interstate Technology and Regulatory Council (ITRC). It is designed to provide an overview summary of remediation technologies for MTBE and TBA in groundwater; it does not cover remediation of other media such as soil, air, or nonaqueous-phase liquid. It is intended for readers who have a technical background but not necessarily extensive remediation experience (February 2005, 131 pages). View or download at http://www.itrcweb.org/MTBE-1.pdf . To receive a hard-copy ITRC document in the mail, e-mail your request to itrc@wpi.biz.

ITRC Permeable Reactive Barriers: Lessons Learned/New Directions (PRB-4). Lessons Learned/New Directions was prepared by the ITRC Permeable Reactive Barriers Team to update previous guidance written by the team. The goal for this document was to compile the information and data on permeable reactive barriers (PRBs) that have been generated over the last 10 years of

technology development and research, as well as to provide information on noniron-based reactive media that can be used in PRBs. This document also provides an update on a developing technology somewhat related to PRBs in which source zone contamination is treated with iron-based reactive media (February 2005, 202 pages). View or download at https://weborcl8.wpi.biz/itrc/WebFiles/PRB-4.pdf . To receive a hard-copy ITRC document in the mail, e-mail your request to itrc@wpi.biz.

ITRC Geophysical Prove-Outs for Munitions Response Projects (UXO-3). This report, prepared by the Interstate Technology & Regulatory Council (ITRC) Unexploded Ordnance Team, introduces the purpose and scope of GPOs; provides examples of goals and objectives associated with GPOs; and presents detailed information needed to understand and evaluate the design, construction, implementation, and reporting of GPOs. This document also communicates the expectations of state regulators to those designing, executing, and reporting GPOs. Because not everyone who will need or want to evaluate a GPO has a background in geophysics, this document includes a background chapter on geophysical surveys as conducted during the course of munitions response actions (November 2004, 78 pages). View or download at http://www.itrcweb.org/UXO-3.pdf . To receive a hard-copy ITRC document in the mail, e-mail your request to itrc@wpi.biz.

Conferences and Symposia

Reminder!! Long-Term (Groundwater) Monitoring Optimization Seminar, Sacramento, March 30-31. This important new seminar will provide state and federal regulators with information about new quantitative methods of LTMO for groundwater. The U.S. Air Force and other responsible parties have used LTMO techniques at an estimated 50 sites nationwide and are likely to use them at more sites in the future. As a result, it is important for regulators to be familiar with LTMO techniques such that appropriate decisions can be made regarding the optimal location and frequency of groundwater monitoring and approval of changes to groundwater monitoring networks. The seminar will include training on some recently developed LTMO methods, such as the Monitoring and Remediation Optimization System (MAROS), the Geostatistical Temporal-Spatial algorithm or GTS, and the three-tiered monitoring network optimization (MNO) approach. While the seminar is designed primarily for state and federal regulators, federal facilities cleanup managers, potentially responsible parties (PRPs), and contractors are welcome to participate. Capacity for the hands-on

training on Day 2 of the seminar is limited. Participation will be accepted on a first-come, first-served basis and preference will be given to state and federal regulators. SO REGISTER EARLY. For more information and to register, visit http://www.trainex.org .

Reminder!! International Phytotechnologies Conference, Atlanta, April 20-22. Phytotechnologies, using plants for remediation, have been successfully applied in many places. This conference answers the persistent questions of what contaminants can plants clean, how long will it take, and how much money can be saved over conventional technologies. Organized by EPA's ORD and OSRTI, the conference is expected to have over 100 presentations from North and South America, Europe, Australia, and Asia. Topics include: Case Studies of Successful Applications, Measurement Technologies; Decreasing Costs for Existing Sites; Phytotechnologies for Developing Economies; Eco-restoration & Remediation; and Eco-risk. For registration information please see http://www.cluin.org/phytoconf .

NOTE: For TechDirect, we prefer to concentrate mainly on new documents and the Internet live events. However, we do support an area on CLU-IN where announcement of conferences and courses can be regularly posted. Currently there are 161 conferences and courses featured. We invite sponsors to input information on their events at http://clu-in.org/courses . Likewise, readers may visit this area for news of upcoming events that might be of interest. It allows users to search events by location, topic, time period, etc.

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