

## Message #105: November 2005

Welcome to TechDirect! Since the October 1 message, TechDirect gained 192 new subscribers for a total of 23,326. 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, sediments 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.

### ***Internet Seminars***

**ITRC Design, Installation and Monitoring of Alternative Final Landfill Covers - November 3.** This training focuses on evapotranspiration (ET) covers and the decisions associated with their successful design, construction, and long-term care. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/studio> .

**ITRC Radiation Site Cleanup: CERCLA Requirements and Guidance - November 8.** The focus of this ITRC training is EPA's guidance for remediating radioactively contaminated sites, which can facilitate cleanups that are consistent with how chemical contaminants are addressed, except where technical differences posed by radiation are addressed. This course also discusses long term stewardship (LTS) challenges related to the large radioactively contaminated sites. This understanding of LTS issues is integral to the cleanup process and decisions made at the radiation sites. To register, see <http://www.itrcweb.org> Or <http://clu-in.org/studio> .

**ITRC Triad Approach: A New Paradigm for Environmental Project Management - November 10.** This seminar discusses the relationship of the Triad to previous regulatory guidance, and offers a discussion of issues that may affect stakeholders. The

ITRC guidance document, Technical and Regulatory Guidance for the Triad Approach: A New Paradigm for Environmental Project Management (SCM-1, 2003), serves as the basis for this training course. To register, see <http://www.itrcweb.org> or

<http://clu-in.org/studio> .

**Socio-Economic Causes and Consequences of Future Environmental Changes - November 16.** EPA's National Center for Environmental Economics (NCEE), and Region 9 are sponsoring a workshop on future environmental scenarios research supported by NCER. Topics include trends in housing and how they affect land-use and land-cover changes, economic and demographic drivers of aquaculture, and the economics of estimated increases in greenhouse gas emissions. Additional research on the consequences of global change, including climate and climate variability, land use, economic development, and technology on air quality will also be presented. Land use planners, air quality and water quality agency staff, transportation specialists, conservation managers, aquaculture experts, and those interested in energy use and management will learn about EPA's latest research in this area. To register, see

<http://clu-in.org/studio> .

**ITRC Constructed Treatment Wetlands - November 17.** This course, developed by the Interstate Technology and Regulatory Council (ITRC), is based on Technical and Regulatory Guidance for Treating Storm Water and Wastewater Using Constructed Treatment Wetlands (WTLND-1). It describes the physical, chemical, and biological mechanisms operating in wetlands treatment systems, the contaminants to which they apply, the characteristics of sites suitable to treatment in this fashion, and relevant regulatory issues. To register, see <http://www.itrcweb.org>

Or <http://clu-in.org/studio> .

### **Jump-Starting Ecological Restoration - Soil Health - December 1.**

Any restoration effort is only as good as the soil that it is built on. The goal of this Internet Seminar is to provide site managers with the basics of soil science and with available tools to build a beautiful soil in a single season. By taking this Internet Seminar, participants will gain the tools necessary to evaluate the conditions of the soils at their sites, identify locally available and cost-effective residuals that would effectively improve these soils, and gain familiarity with a number of different application options for incorporating these amendments into site soils. The potential for amendments to be used for in situ remediation will be clear

through the case studies. As managers are being faced with both reduced resources and the need to consider end uses of sites, this type of approach is an essential first step towards ecological restoration. To register, see <http://clu-in.org/studio> .

**Improving Contracting, Design, and Evaluation of Groundwater Pump and Treat Systems - December 5.** This seminar discusses four recent EPA fact sheets on lessons learned from conducting optimization reviews at over 30 pump and treat (P&T) systems nationwide. The seminar covers the cost-effective design of P&T systems as well as effective management, contracting, and reporting for operating P&T systems. Illustrative examples convey a number of concepts, including design considerations at complex sites, describe the primary components of a capture zone evaluation, and discuss the merits of fixed-price or time-and-materials contracts for long-term operations and maintenance (O&M) of P&T systems. One of the fact four sheets is a template for an O&M report, and the internet seminar presents the various sections, tables, and figures that are included in the template. For more information and to register, see <http://clu-in.org/studio> .

**ITRC Site Investigation and Remediation for Munitions Response Projects - December 6.** State and tribal regulatory officials are routinely required to evaluate DOD cleanup strategies with little, if any, environmentally oriented munitions response experience or guidance. State regulators are increasingly being charged with oversight responsibility for munitions response cleanup projects on other than operational ranges, such as formerly used defense sites (FUDS) and base realignment and closure (BRAC) sites. This seminar covers the site investigation and site remediation process for munitions response sites on other than operational ranges. It provides an introduction and overview of the processes, tools, and techniques used in investigation and remediation. These concepts are illustrated using an example munitions response site. For more information and to register, see <http://www.itrcweb.org> Or <http://clu-in.org/studio> .

**Perchlorate: Overview of Issues, Status, and Remedial Options - December 8.** Improved analytical methodology has increased the known extent of perchlorate contamination in the U.S. A variety of remediation technologies are currently commercially available and being used for perchlorate remediation. This training, based on ITRC's Perchlorate: Overview of Issues, Status, and Remedial Options (PERC-1), explains why perchlorate is a hot topic in the environmental community including up-to-date information on

sources, occurrences, toxicity and exposure, regulatory status and remediation alternatives. For more information and to register, see <http://www.itrcweb.org> OR <http://clu-in.org/studio> .

## ***Documents and Web Resources***

**Decision Support Tools (DSTs) Matrix.** DSTs are interactive software tools used by decision-makers to help answer questions, solve problems, and support or refute conclusions. They can be incorporated into a structured decision-making process for environment site clean-up. DSTs often support multiple functions, such as data acquisition, spatial data management, modeling, and cost estimating. The matrix is a table that provides general information about each DST, such as the types of files that may be imported to, or exported from, the DST, the characteristics of applicable sites (contaminants and media) and the functions it performs. All DSTs that were evaluated are free to the public. View and use at <http://www.ftr.gov/decisionsupport/index.htm> .

**Triad Project Profiles with Cost & Time Savings Online.** The Triad Resource Center (TRC) website provides the information hazardous waste site managers and cleanup practitioners need to implement the Triad effectively. Federal and state partners have documented 15 Triad projects through profiles available on TRC, with additional profiles to be added soon. Each profile describes the primary objective(s) of the project, site history, team members and collaboration methods, real-time measurement technologies, data management techniques, project timelines, as well as discussions of the Triad elements applied. Electronic documents such as Statements of Work, Sampling and Analysis Plans, and Decision Logic Diagrams are supplied to many profiles to further demonstrate the use of Triad in the project. Furthermore, cost and time savings have been highlighted for each profile. Visitors can access the Triad profiles at <http://www.triadcentral.org/user/index.cfm> .

**Use of Dynamic Work Strategies Under a Triad Approach for Site Assessment and Cleanup - Technology Bulletin.** The EPA Brownfields and Land Revitalization Technology Support Center (BTSC) is preparing a series of technical bulletins to provide additional information about how to implement specific aspects of the Triad approach. This bulletin focuses on planning and implementation of DWSs, presenting: answers to frequently asked questions on implementing a DWS; summaries of the application of DWS at two redevelopment sites, including: Former Cos Cob Power Plant, Greenwich, CT and Assunpink Creek Greenway,

Trenton, NJ; and sources of additional information for communities and project teams desiring to implement a DWS and the Triad approach (September 2005, 9 pages). View or download at <http://www.brownfieldstsc.org/pdfs/DWSBulletin.pdf> .

**US EPA Steam Enhanced Remediation Research for DNAPL in Fractured Rock - Loring Air Force Base, Limestone, Maine (EPA 540-R-05-010).** This EPA report details a research project on Steam Enhanced Remediation (SER) for the recovery of volatile organic contaminants (VOCs) from fracture limestone that was carried out at an abandoned quarry at the former Loring Air Force Base (AFB) in Limestone, Maine. The purpose of the study was to determine if SET would heat the target area for remediation; enhance contaminant recovery, and reduce contaminant concentrations in the rock and ground water. Secondary objectives included determining if contaminants were mobilized outside of the treatment area, documenting the ability of SteamTech's effluent treatment systems to meet discharge requirements, determining operating parameters for fractured rock, and documenting costs (August 2005, 200 pages). View or download chapters at

<http://www.epa.gov/ORD/NRMRL/pubs/540r05010/540r05010.pdf> .

**EUGRIS, the web portal for Soil and Water management in Europe.** The EUGRIS portal is a web based European information platform, which is openly available and provides comprehensive and overarching information resource for sustainable groundwater and land management practice. EUGRIS provides access to information on soil and groundwater management from throughout the European Union, including research projects, technical information, available training, legislation, guidance and support tools. See <http://www.eugris.info> .

**Mercury Species Fractionation and Quantification by Microwave Assisted Extraction, Selective Solvent Extraction and/or Solid Phase Extraction.** The Office of Solid Waste has developed a new technique for speciating mercury. Method 3200 contains a sequential extraction and separation procedure that may be used in conjunction with a determinative method to differentiate mercury species that are present in soils and sediments. It also provides information on both total mercury and various mercury species. View or download at

<http://www.epa.gov/epaoswer/hazwaste/test/pdfs/3200.pdf> .

**The Use and Effectiveness of Phytoremediation to Treat Persistent Organic Pollutants.** This document was prepared by Kristi Russell during an internship with the U.S. Environmental Protection Agency, sponsored by the Environmental Careers

Organization. This report is intended to provide an overview of phytoremediation uses to treat media contaminated by persistent organic pollutants and demonstrate the potential for use of phytoremediation in developing and transitional economies (August 2005, 49 pages). View or download at

<http://clu-in.org/techpubs.htm> .

**Permeable Reactive Barriers for Inorganic and Radionuclide Contamination.** This document was prepared by Kate Bronstein, a National Network of Environmental Management studies grantee, under a fellowship from the U.S. Environmental Protection Agency. It is a reference for project managers, engineers, students, and others interested in a review of case studies of the instances where permeable reactive barriers have been used to remediate sites contaminated with inorganics and radionuclides. The paper mainly focuses on case studies, but a brief overview is given on topics such as: treatment media types, reactive processes, site characterization, configuration, and the nature of contamination (August 2005, 63 pages). View or download at <http://clu-in.org/techpubs.htm> .

**In Situ Bioremediation of DNAPL Source Zones.** This document was prepared by Lisa Moretti, a National Network of Environmental Management studies grantee, under a fellowship from the U.S. Environmental Protection Agency. The objective of this report is to provide an overview of in situ bioremediation of DNAPL source areas. This report discusses the integral steps when implementing bioremediation, such as site characterization, design considerations, and post-treatment monitoring. In addition, this report also examines the use of bioremediation as a polishing treatment for the source zone. Case studies are included as examples of the use of bioremediation as a stand-alone and a polishing treatment for DNAPL source areas (August 2005, 37 pages). View or download at <http://clu-in.org/techpubs.htm> .

## ***Conferences and Symposia***

**Call for Abstracts!** Design and Construction Issues at Hazardous Waste Sites Conference, Philadelphia, April 19-20. This EPA conference will provide a forum for discussion between the private sector and the federal and state government regarding design and construction issues at hazardous waste sites including effective methods, lessons learned, and application of technologies. EPA anticipates up to eight panel sessions across the topical areas of groundwater, post-construction, and project management. The deadline for submitting abstracts in November 23, 2005. For more



information, see <http://www.rdra.org/construction/> .

**2005 NGWA Remediation Conference: Site Closure and the Total Cost of Cleanup, Houston, November 7-8.** This third annual Remediation Costs Conference is all about the actual costs to close sites. This year, the NGWA added optimization and performance modeling to the conference topics. The event will blend modeling with remediation and focus on actual remediation projects and the costs associated with numerous remediation technologies. Case studies will include industrial sites, landfills, petroleum and chlorinated solvent sites, and much more. The conference will also feature an industry display area, workshops, concurrent sessions, and panel discussions of competing technologies. Full proceedings will be published on CD-ROM. For more information and to register, see

<http://www.ngwa.org/e/conf/0511075010.shtml> .

**2005 Partners in Environmental Technology Technical Symposium & Workshop, Wasington, DC, November 29-December 1.** Sponsored by the DoD Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP), this conference will take place November 29 - December 1, 2005. This event will provide attendees: concurrent technical sessions covering the latest in environmental research results and technical innovations; poster sessions featuring more than 350 technical posters; exhibit booths offering information about funding opportunities in related research programs; a concluding session providing a summary of SERDP and ESTCP program development and opportunities to conduct research and demonstrations; and networking opportunities with more than 800 environmental professionals. For more information, please visit

<http://www.serdp.org> .

**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 167 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.

If you have any questions regarding TechDirect, contact Jeff Heimerman at (703) 603-7191 or [heimerman.jeff@epa.gov](mailto:heimerman.jeff@epa.gov). Remember, you may subscribe, unsubscribe or change your subscription address at <http://clu-in.org/techdrct> at any time night or day.