

Message #99: May 2005

Welcome to TechDirect! Since the April 1 message, TechDirect gained 255 new subscribers for a total of 21,760. 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.

Special Announcements

Superfund 25th Anniversary. Superfund will mark its 25th anniversary in December 2005. In commemoration, EPA is planning three major activities to capture the history of the Superfund program by allowing those involved to share their experiences. These commemorative activities consist of a national discussion on the changing nature of Superfund, an oral history project, and a photo history project. EPA is calling for photographic submissions for the photo history project. We encourage people to submit photographs that capture the people and places of Superfund, the human and environmental impacts of Superfund sites, and the changes in communities resulting from site cleanups. EPA will use selected photos to enhance the oral history project and to create an archive of Superfund images. In addition, EPA will select two photos representing each of its ten regions for later display. Guidelines for submitting photos are available on Superfund's 25th Anniversary web site at <http://www.epa.gov/superfund/25anniversary> .

EPA Small Business Innovation Research Program Solicitation No. PR-NC-05-10246. EPA invites small business firms to submit research proposals under this Small Business Innovation Research (SBIR) Phase I Solicitation. The SBIR program is a phased process uniform throughout the Federal Government of soliciting proposals and awarding funding agreements for research (R) or research and

development (R&D) to meet stated Agency needs or missions. EPA is interested in advanced technologies that address Mid-Atlantic environmental problems. The proposed research must directly pertain to EPA's environmental mission and must be responsive to EPA program interests included in the topic descriptions in the solicitation. See http://es.epa.gov/ncer/rfa/2005/2005_sbir_phase1.html# for research topics and application instructions for this solicitation. Deadline for submission is May 25, 2005.

Upcoming Internet Seminars

ITRC What is Remediation Process Optimization And How Can It Help Me Identify Opportunities for Enhanced and More Efficient Site Remediation? - May 5. This training discusses 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 What's New with In Situ Chemical Oxidation? - May 19. This training presents updated guidance and technology advancement information for In Situ Chemical Oxidation. Topics include a regulatory discussion related to ISCO implementation; details on the chemistry behind ISCO technology; considerations for system design and application, including health and safety; and performance evaluation information. The course is based on the ITRC's In Situ Chemical Oxidation of Contaminated Soil and Groundwater, Second Edition (ISCO-2, 2005), with sections on technology overview and applicability, remedial investigations, safety concerns, regulatory concerns, injection design, monitoring, stakeholder concerns, and case studies. For more information and to register, see <http://www.itrcweb.org> Or <http://clu-in.org/studio> .

ITRC Strategies for Monitoring the Performance of DNAPL Source Zone Remedies - May 24. 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. 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> .

Design, Installation and Monitoring of Alternative Final Landfill Covers - May 26. 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 - June 2. 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. In addition to cleanup and its associated guidance, this course introduces the participants to 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 - June 7. This seminar introduces the Triad concept and highlights how this process can increase the effectiveness and quality of environmental investigations. This training explains 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> .

New Documents and Online Resources

Environmental Management at Operating Outdoor Small Arms Firing Ranges (SMART-2). This document was developed by the Interstate Technology and Regulatory Council (ITRC). This document addresses the minimization of potential exposure to metals, especially lead, associated with shooting ranges. It is designed to assist range operators in developing, using, and monitoring environmental management plans at active outdoor small

arms firing ranges. The central task in formulating an environmental management plan is the selection and implementation of effective and reliable pollution prevention and mitigation measures, otherwise referred to as best management practices (February 2005, 125 pages). View or download at <http://www.itrcweb.org/Documents/SMART-2.pdf> .

Assessment of Subsurface Chlorinated Solvent Contamination Using Tree Cores at the Front Street Site and a Former Dry Cleaning Facility at the Riverfront Superfund Site, New Haven, Missouri, 1999-2003 (Scientific Investigations Report 2004-5049). This report was published by the U.S. Geological Survey in cooperation with the U.S. EPA. It describes the assessment of subsurface chlorinated solvent contamination using tree cores at two sites that were investigated as part of the Riverfront Superfund Site. During an initial assessment in 1999, core samples were collected from 32 trees. Results from these samples were used to scope and design the subsurface characterization of soils and a ground-water monitoring network (2004, 41 pages). View or download at <http://water.usgs.gov/pubs/sir/2004/5049/pdf/complete.pdf> .

Field Screening Method for Perchlorate in Water and Soil (ERDC/CRREL TR-04-8). This report was published by the U.S. Army Corps of Engineers. A reliable and inexpensive colorimetric method for perchlorate in water and soil extracts has been developed and tested with surface water, well water, bioreactor effluent, and soil extracts. The detection limit for water is 1 ug/L and 0.3 ug/g for spiked soils. Results from nearly 100 well water and bioreactor samples show excellent agreement with EPA Method 314 over the range of 1-225 ug/L (slope = 1.11, R² = 0.913). Some false positives were encountered in some wells. A cleanup method was developed that can eliminate false positives due to humic substances (April 2004, 26 pages). View or download at http://www.crrel.usace.army.mil/techpub/CRREL_Reports/reports/TR04-8.pdf .

Microbial Community Shifts Associated with RDX Loss in a Saturated and Well-Drained Surface Soil (ERDC/CRREL TR-05-4). This report was published by the U.S. Army Corps of Engineers. It reports on the microbial community composition associated with the deposited RDX under the differing soil moisture tensions. Phospholipid fatty acid (PLFA) and terminal fragment length polymorphism (T-RFLP) profiles were used to quantify the in situ microbiota. The rapid biotransformation of RDX in the saturated soil was coincident with an endpoint microbial community containing firmicutes, proteobacteria, actinobacteria, and bacteroidetes. The authors hypothesize that the saturated soil led to the development of alpha/deltaproteobacteria and firmicute subpopulations and that

these populations were primarily responsible for the observed biological transformation of RDX (March 2005, 25 pages). View or download at http://www.crrel.usace.army.mil/techpub/CRREL_Reports/reports/TR05-4.pdf .

Technology News and Trends (EPA 542-N-05-002). This newsletter is produced by the U.S. EPA Office of Superfund Remediation and Technology Innovation. This issue features articles on nanoscale zero valent iron, vertical hydrofracturing for deep installation of reactive walls, mass flux evaluation of surfactant remediation, and a new approach for accelerating landfill biodegradation (March 2005, 6 pages). View or download at <http://clu-in.org/download/newsletters/tandt0305.pdf> .

Energy and Environmental Export News (April 2005 Issue). This periodic newsletter is published by the Office of Energy and Environmental Industries of the International Trade Administration (ITA). It captures recent initiatives, trade events and news that affect energy and environmental technologies export (April 2005, 6 pages). View or download at <http://web.ita.doc.gov/ete/eteinfo.nsf/vvnewsletter?OpenView> .

Conferences and Symposia

EPA P3 Design Competition, Washington DC, May 16-17.

Sixty-six teams comprised of hundreds of the country's most innovative college students will participate in a national competition, exhibiting their designs for sustainability on the National Mall in Washington, DC. These winners of EPA's P3 design competition will compete for the First Annual P3 Award. The P3 program - People, Prosperity, and Planet - began in 2004 to respond to the needs of the developed and developing world in moving toward sustainability. This national student design competition enables college students to research, develop and design scientific, technical and policy solutions to sustainability challenges. Judges for the award competition will be comprised of a panel convened by the National Academies and awards will be announced on the evening of May 16. Come see novel products for green buildings, learn about innovative fuel cell designs, discover new technologies to provide clean drinking water and renewable energy to underdeveloped nations and much more. To learn more about the competition, see <http://www.epa.gov/P3> .

Collaborative Cleanups: Revitalizing America's Communities, Keystone, CO, May 23-24. The U.S. EPA is sponsoring this community-based meeting on collaborative solutions to complex cleanups. This meeting will explore how federal, state and local cleanup agencies and communities can collaborate to better integrate complex, multi-site cleanups with large scale revitalization

and community development planning. For more information and to register, see <http://ems-mx4.sradev.com/uri-ocp/index.cfm> .

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 217 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. Remember, you may subscribe, unsubscribe or change your subscription address at <http://clu-in.org/techdrct> at any time night or day.