TechDirect, August 1, 2007

Welcome to TechDirect! Since the July 1 message, TechDirect gained 211 new subscribers for a total of 28,548. 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 . 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.

TechDirect's purpose 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.

> Upcoming Live Internet Seminars

Ecological Revitalization Case Studies - The Atlas Tack Site and the Poudre River Site - August 2. This seminar will focus on two case studies where ecological revitalization principles have been put into practice. At the Atlas Tack Superfund site, adjacent fresh and salt water wetlands were heavily contaminated by discharge and fill of metal plating and enameling waste emanating from the site. The site is situated approximately 500 m northwest of Buzzards Bay, designated as an Estuary of National Significance. Ecological enhancement was used as part of waste site remediation. At the Poudre River Site, polycyclic aromatic hydrocarbons have been observed in the soils of a former gas plant, in the groundwater underneath a closed landfill, and in the sediments of the Poudre River itself. The cleanup and protection of the Poudre River involves such intricacies as the creation of a barrier wall, the redirection and treatment of contaminated ground water, and the replacement of non-native vegetation with native species. For more information and to register, see http://clu-in.org/studio .

Use of SADA for Risk Assessment - August 7. Spatial Analysis and Decision Assistance (SADA; http://www.tiem.utk.edu/~sada/) is evolving freeware that incorporates tools from environmental assessment fields into an effective problem-solving environment. Presenters from EPA and the University of Tennessee will discuss the features in SADA that can be applied to Human and Ecological Risk Assessment problems. This seminar goes beyond the general SADA CLU-IN seminar (archived at: http://www.clu-in.org/conf/tio/sada_081506/) to show the specific capabilities of SADA for making these decisions, including: calculation of site-specific preliminary remediation goals, exposure modeling for human and eco risk, and visualization of potential risks and doses. For more information and to register, see http://clu-in.org/studio .

ITRC Perchlorate: Overview of Issues, Status, and Remedial Options - August 9. 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 .

ITRC Remediation Process Optimization Advanced Training - August 16. Remediation Process Optimization (RPO) is the systematic evaluation and enhancement of site remediation to ensure that human health and the environment are being protected over the long term at minimum risk and cost. The purpose of this ITRC training is to present an overview of the material covered in five technical fact sheets that ITRC's RPO Team produced to enhance site remediation optimization and decision-making. The training modules provide additional information and techniques to improve project schedules, effectively manage resources, emphasize risk, and discuss tools to efficiently cleanup contaminated sites. For more information and to register, see http://www.itrcweb.org or http://clu-in.org/studio .

Nanotechnology: Fate and Transport of Engineered Nanomaterials - August 16. The NIEHS Superfund Basic Research Program (SBRP), in collaboration with the Environmental Protection Agency (EPA), presents "Fate and Transport of Engineered Nanomaterials." This seminar is part of a series covering the applications and implications of nanotechnology as it pertains to the National Superfund Program. The USEPA Nanotechnology White Paper (2007) and the National Nanotechnology Initiative draft report (2006) both highlight the need for examining factors that affect environmental exposure to manufactured nanomaterials with emphasis on the fate and transport in environmental media as a high priority. Richard G. Zepp (Senior Research Scientist, USEPA/NERL/ERD, Atlanta, GA) will present "Factors Influencing Fate and Transport of Selected Nanomaterials in Water and Land," with particular emphasis on fullerenes and single wall nanotubes. Paul Westerhoff (Professor, Civil & Environmental Engineering, ASU, Tempe, AZ) will explore the fate of nanomaterials in "Nanoparticle Interactions During Wastewater and Water Treatment." For more information and to register, see http://clu-in.org/studio .

ITRC Risk Assessment and Risk Management: Determination and Application of Risk-Based Values - August 23. This training course describes the development and application of risk-based screening values. The first module provides a review of key risk assessment concepts related to risk management. The second module focuses on the process by which risk-based levels are derived in different states. The third module examines the application of risk assessment to remediation operations in two case studies providing examples of how risk assessment has actually been implemented, based upon research and case studies conducted by the ITRC Risk Assessment Resources team. This training course describes a number of the reasons behind variations in risk-based screening values and their use in risk management. For more information and to register, see http://www.itrcweb.org or http://clu-in.org/studio .

> New Documents and Web Resources

Decision Support Tool (DST) Matrix Version 2.0. The Decision Support Tool (DST) Matrix has been updated in order to stay current with the evolution of environmental investigation and remediation technology. 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. 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. The DST Matrix Version 2.0 includes five new DSTs in the matrix, one new mini-case study and updates the information on the 20 DSTs that were included in Version 1.0, including notes about new features, new versions and documentation. View and use at http://www.frtr.gov/decisionsupport/ .

New Cost and Performance Information on Cleanup Technologies. The Federal Remediation Technologies Roundtable (FRTR) recently published 38 new case study and technology assessment reports. These reports document the cost, performance, and lessons learned in implementing a wide range of hazardous waste site cleanup technologies in the field, ranging from large-scale demonstrations to full-scale applications. Visitors to the Web site can search these reports by remedial technology, optimization method, and other criteria. With these new additions, a total of 756 reports are now available in four areas - 393 cost and performance case study reports describing the use of remediation technologies; 175 reports describing the use of site characterization and monitoring technologies; 110 case studies describing long-term monitoring/optimization of remediation technologies; and 78 reports describing the assessments of remediation technologies at hazardous waste sites. View or search these reports at http://www.frtr.gov/costperf.htm .

Abstracts of Remediation Case Studies, Volume 11 (EPA 542-R-07-004). This new report, published by the FRTR, is a collection of abstracts summarizing 10 cost and performance case studies on the use of remediation technologies at contaminated sites. The case studies include several different technologies for treating soil or groundwater contamination or acid rock drainage, with 3 reports addressing soil cleanup, 4 reports focusing on groundwater and 3 reports focusing on treating acid rock drainage (August 2007, 92 pages). View or download at http://clu-in.org/techpubs.htm .

Remediation Case Studies and Technology Assessment Reports Fact Sheet: June 2007 (EPA 542-F-07-002). This fact sheet produced by the FRTR describes the status of cost and performance activities, including recent additions of completed case studies and reports. A total of 756 reports are now available. These reports represent a wide spectrum of technology deployment in the field, ranging from pilot-scale demonstrations to full-scale applications at single and multiple sites (June 2007, 6 pages). View or download at http://clu-in.org/techpubs.htm . For hard copies, contact (800) 490-9198 or fax to (301) 604-3408.

Ecological Revitalization and Attractive Nuisance Issues (EPA 542-F-06-003). This fact sheet is the third and final in a series of fact sheets related to ecological revitalization on Superfund sites. Superfund sites are being cleaned up and restored while integrating natural features such as wetlands, meadows, streams, and ponds to provide habitat for terrestrial and aquatic plants and animals, and for low-impact or passive recreation, such as hiking and bird watching. The potential exposure of wildlife can be a concern when waste or contaminants remain on a site following cleanup (i.e., attractive nuisance), but it need not prevent the ecological revitalization of that site. This fact sheet discusses how to identify, assess, and manage potential attractive nuisance issues during ecological revitalization of Superfund sites and presents case studies that illustrate a variety of attractive nuisance issues and how they were managed (June 2007, 12 pages). View or download at http://clu-in.org/techpubs.htm .

Clandestine Drug Laboratory Remediation: A Guide to Post-Emergency Response. This document was published by the Association of State and Territorial Solid Waste Management Officials (ASTSWMO). It focuses on the

environmental issues and available reference resources for State hazardous waste remediation and removal programs as related to clandestine drug lab response. This document describes the processes that various governmental agencies commonly use to conduct initial response actions at clandestine drug labs. It also addresses issues that State or other environmental agencies should consider in addressing the final remedial actions that are necessary to protect public health and the environment. These include notification and coordination among agencies, cleanup levels and protocols for buildings and environmental media, procedures for assuring that buildings are properly cleaned up before they are reoccupied, and program funding (October 2006, 25 pages). View or download at http://www.astswmo.org/files/publications/cercla/removals/Drug-Lab-Paper-final.pdf .

Management and Interpretation of Data Under a Triad Approach - Technology Bulletin (EPA 542-F-07-001). The Brownfields and Land Revitalization Technology Support Center (BTSC) created this bulletin to focus on implementing a data management program for a Triad project. It includes a brief introduction to the Triad approach, answers to frequently asked questions about data management on Triad projects, three examples of data management with state agencies as the primary regulatory body, and sources of additional information for project teams and stakeholders who develop or provide input on a data management (May 2007, 14 pages). View or download at http://clu-in.org/techpubs.htm .

A Framework for Assessing the Sustainability of Monitored Natural Attenuation: U.S. Geological Survey Circular 1303. The U.S. Geological Survey, in cooperation with the Strategic Environmental Research and Development Program (SERDP) and Virginia Tech University, has developed a framework for assessing the long-term sustainability of monitored natural attenuation at hazardous waste cleanup sites. The framework consists of methods for assessing the balance between the delivery of contaminants to the environment and their natural attenuation. This methodology, recently published as U.S. Geological Survey Circular 1303, provides environmental planners and managers with a quantitative plan for using monitored natural attenuation as the solution for cleaning up hazardous waste sites (July 2007, 48 pages). View or download at http://pubs.usgs.gov/circ/circ1303/ .

Technology News and Trends (EPA 542-N-06-010). This issue looks back to find lessons learned from site characterization and remediation projects described in earlier issues of the newsletter. These site-specific updates encompass expanded field operations, the results of longer-term monitoring, techniques for system integration, and recent research on technical focus areas of the U.S. EPA?s Office of Superfund Remediation and Technology Innovation (July 2007, 6 pages). View or download at http://clu-in.org/techpubs.htm .

Long-Term Stewardship Roundtable and Training Summary. The purpose of the April 4-5, 2007 Long-Term Stewardship (LTS) Roundtable & Training was to provide informational presentations and transferable lessons to help ensure effective post-construction activities at Federal, State, Tribal, local and private party cleanup sites. The Roundtable & Training provided a forum for sharing these concepts across programs, agencies and parties. LTS activities typically include physical and legal controls to prevent inappropriate exposure to contamination left in place at a site and activities to ensure that a remedy is operating efficiently and effectively. View session summaries and slides at http://clu-in.org/lts .

Guidance for Evaluating the Oral Bioavailability of Metals in Soils for Use in Human Health Risk Assessment (OSWER 9285.7-80). The purpose of this document is to provide guidance to Regional risk assessors on how to assess site-specific oral bioavailability of metals in soils for use in human health risk

assessments. This guidance is focused on media-specific relative bioavailability and does not address adjustments to default absolute bioavailability values. Also, this guidance addresses human health risk assessment and may not be necessarily useful for evaluating ecological receptors. Finally, the guidance document provides information on methodologies for directly assessing bioavailability and does not pertain to indirect methods for predicting bioavailability (May 2007, 20 pages). View or download at http://www.epa.gov/superfund/bioavailability/bio_guidance.pdf .

Estimation of Relative Bioavailability of Lead in Soil and Soil-like Materials Using In Vivo and In Vitro Methods (OSWER 9285.7-77). Reliable analysis of the potential hazard to children from ingestion of lead in environmental media depends on accurate information on a number of key parameters, including the rate and extent of lead absorption from each medium. Bioavailability of lead in a particular medium may be expressed either in absolute terms (absolute bioavailability, ABA) or in relative terms (relative bioavailability, RBA). This report summarizes the results of a series of studies performed by scientists in U.S. EPA Region 8 to measure the RBA of lead in a variety of soil and soil-like test materials using both in vivo and in vitro techniques (May 2007, 386 pages). View or download at http://epa.gov/superfund/bioavailability/lead_tsd.pdf .

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. See http://www.eugris.info/DisplayNewsItem.asp?NewsID=400 to access important new information from Europe. Look at the New RESOURCES section under NEWS. Nineteen new resources, projects and news items were added to EUGRIS in June and July 2007. These resources include the following documents and web sites:

FP7 Legal and Procedural Documents. This useful web site provides a 'one-stop shop' for the various legal and procedural documents required for FP7, including: legal basis, legal documents for implementation, guidance documents (e.g. financial issues, contract negotiation), ethics review, and links to work programs. View and download documents at http://cordis.europa.eu/fp7/find-doc_en.html .

The Hyporheic Network. The Hyporheic Network is a knowledge transfer network on groundwater - surface water interactions with a strong interest in the behavior of industrial pollutants in groundwater as they emerge into surface water, among other issues. The Network is about to establish a series of working groups to discuss both practical and research issues. More information and registration with the network is available at http://www.hyporheic.net .

> Conferences and Symposia

Long-Term Monitoring Optimization (LTMO) Training, August 7-8, Boston. EPA is partnering with the U.S. Army Corps of Engineers to provide state and federal regulators with information about new methods of optimizing groundwater monitoring programs. The training will be held at the EPA Region 1 Office. Responsible parties, federal facilities, and EPA have used LTMO methods at more than 100 sites nationwide and are likely to use them at more sites in the future. The methods are used to support decision making regarding optimal location and frequency of groundwater monitoring and to support changes to existing monitoring networks. As a result, it is important for regulators to be familiar with LTMO methods and technical support mechanisms such that appropriate decisions can be made. The training includes a 1-day lecture on a variety of qualitative and quantitative methods including: the Monitoring and Remediation Optimization System (MAROS); the Geostatistical

Temporal-Spatial (GTS) algorithm; and the Three-Tiered Monitoring Network Optimization (MNO) approach. Two 4-hour hands-on training sessions with the MAROS software program will be offered on the second day for a limited number of attendees. While the training is designed primarily for state and federal regulators, federal facilities cleanup managers, potentially responsible parties (PRPs), and contractors are welcome to participate at no cost. State and federal regulators will receive registration priority. For details about this training and to register, visit http://www.trainex.org.

Air Force Center for Engineering and the Environment Workshop on Performance-Based Contracting (PBC), San Antonio, TX, September 4-6. The Air Force Center for Engineering and the Environment (AFCEE) is providing a free two-day workshop on PBC. The topics to be covered during the Workshop by hand-selected experts in the field are based on United States Air Force (USAF) guiding principles of PBC and the AFCEE PBC initiative. The Workshop will provide training on PBC including the five W's of PBC, challenges, frequently asked questions, case studies, a panel discussion, understanding insurance, lessons learned, the AFCEE PBC Tool, and much more. More information is available at http://clu-in.org/techpubs.htm .

Advancing Risk-Based, Scientifically Sound Approaches for Evaluation of Sediment Management Decisions, September 5-7, Portland, Oregon. The EPA Hazardous Substance Research Center/ South and Southwest, in cooperation with the Oregon Department of Environmental Quality, US EPA and the Sediment Management Work Group, will be conducting a three-day Sediment Remediation Course. The course provides environmental professionals in industry, consulting and government with practical information on how to evaluate the technical suitability of monitored natural recovery, dredging and excavation, or in situ capping remedies for contaminated sediments. For more information and to register, see http://www.smwg.org/ .

Call For Abstracts!! Triad Investigations: New Approaches and Innovative Strategies, Amherst, MA, June 10-13, 2008. The June 2008 National Conference Triad Investigations: New Approaches and Innovative Strategies will include training sessions, workshops, and platform sessions focused on implementation of new tools, approaches, and strategies for hazardous waste site characterization, site remediation, and site redevelopment. Equipment demonstrations will augment the exhibitions to bring practical applications to the technical theory and case studies presented during the conference. The conference will feature cutting edge tools and techniques for sampling and monitoring related to real-time information, continuous monitoring, and long-term monitoring for site closure and stewardship. Best practices and lessons learned will be emphasized throughout the training sessions, platform sessions, and workshops. The deadline for abstract submittals is October 1, 2007. For more information, see http://www.umass.edu/tei/conferences/triad.html .

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 140 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.

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