



TechDirect, May 1, 2011

Welcome to TechDirect! Since the April 1 message, TechDirect gained 159 new subscribers for a total of 37,886. 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.

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

Soil Contaminant Bioavailability and Remediation - May 9, 2011, 2:30PM-4:30PM EDT (18:30-20:30 GMT). Attend this session to learn about soil contaminant availability and remediation with soil amendments. You'll learn about what we've done and learned and where we need to focus for future success. For more information and to register, see <http://clu-in.org/live>.

ITRC Phytotechnologies - May 10, 2011, 2:00PM-4:15PM EDT (18:00-20:15 GMT). This training familiarizes participants with ITRC's Phytotechnology Technical and Regulatory Guidance and Decision Trees, Revised (Phyto-3, 2009). This document provides guidance for regulators who evaluate and make informed decisions on phytotechnology work plans and practitioners who have to evaluate any number of remedial alternatives at a given site. This document updates and replaces Phytoremediation Decision Tree (Phyto-1, 1999) and Phytotechnology Technical and Regulatory Guidance Document (Phyto-2, 2001). It has merged the concepts of both documents into a single document. This guidance includes new, and more importantly, practical information on the process and protocol for selecting and applying various phytotechnologies as remedial alternatives. For more information and to register, see <http://www.itrcweb.org> OR <http://clu-in.org/live>.

ITRC Use and Measurement of Mass Flux and Mass Discharge - May 12, 2011, 11:00AM-1:15PM EDT, (15:00-17:15 GMT). The ITRC technology overview, Use and Measurement of Mass Flux and Mass Discharge (MASSFLUX-1, 2010), and associated Internet-based training provide a description of the underlying concepts, potential applications, description of methods for measuring and calculating, and case studies of the uses of mass flux and mass discharge. This Technology Overview, and associated Internet-based training are intended to foster the appropriate understanding and application of mass flux and mass discharge estimates, and provide examples of

use and analysis. The document and training assumes the participant has a general understanding of hydrogeology, the movement of chemicals in porous media, remediation technologies, and the overall remedial process. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live> .

ITRC Mine Waste Treatment Technology Selection - May 19, 2011, 11:00AM-1:15PM EDT (15:00-17:15 GMT). ITRC's Mining Waste Team developed the ITRC Web-based Mine Waste Technology Selection site (<http://www.itrcweb.org/miningwaste-guidance/>) to assist project managers in selecting an applicable technology, or suite of technologies, which can be used to remediate mine waste contaminated sites. Decision trees, through a series of questions, guide users to a set of treatment technologies that may be applicable to that particular site situation. Each technology is described, along with a summary of the applicability, advantages, limitations, performance, stakeholder and regulatory considerations, and lessons learned. Each technology overview links to case studies where the technology has been implemented. In this associated Internet-based training, instructors provide background information then take participants through the decision tree using example sites. Project managers, regulators, site owners, and community stakeholders should attend this training class to learn how to use the ITRC Web-based Mine Waste Technology Selection site to identify appropriate technologies, address all impacted media, access case studies, and understand potential regulatory constraints. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live> .

Community Engagement Activities in Native American Communities - May 23, 2011, 1:00PM-3:00PM EDT (17:00-19:00 GMT). Dr. Anna Harding and Dr. Barbara Harper of Oregon State University will provide a seminar entitled "Addressing Tribal Exposures to Polycyclic Aromatic Hydrocarbons (PAHs) and Building Tribal Capacity through a Tribal-University Partnership." Their seminar focuses on the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) in Oregon and other tribes in the United States who may be at increased risk of disease due to cumulative PAH exposures from traditionally smoked foods, air exposure from traditional smoking of foods, and ambient air pollution. Their work served to build tribal capacity and establish a Tribal Advisory committee, IRB protocols and material and data sharing agreements, and culturally appropriate activities focused on tribal needs. Dr. Jim Shine and Dr. Laurel Schaidler of Harvard University will also present a seminar entitled "Fate and exposure studies of metals in rural Oklahoma: Engaging communities." For the last seven years, Dr. Shine and Dr. Schaidler conducted studies in rural northeastern Oklahoma involving heavy metals associated with mine waste and mercury exposure among subsistence and recreational fishers. Through these research activities, proactive engagement with community groups, Native American tribes, and state and federal agencies enhanced the quality and relevance of the research and promoted greater trust among all groups. For more information and to register, see <http://clu-in.org/live> .

ITRC In Situ Bioremediation of Chlorinated Ethene - DNAPL Source Zones - May 24, 2011, 2:00PM-4:15PM EDT (18:00-20:15 GMT). Treatment of dissolved-phase chlorinated ethenes in groundwater using in situ bioremediation (ISB) is an established technology; however, its use for DNAPL source zones is an emerging application. This training course supports the ITRC Technical and Regulatory Guidance document In Situ Bioremediation of Chlorinated Ethene: DNAPL Source Zones (BioDNAPL-3, 2008). This document provides the regulatory community, stakeholders, and practitioners with the general steps practitioners and regulators can use to objectively assess, design, monitor, and optimize ISB treatment of DNAPL source zones. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live> .

Conducting Contamination Assessment at Drycleaning Sites - June 8, 2011, 1:00PM-3:30PM EDT (17:00-19:30 GMT). The State Coalition for Remediation of Drycleaners (SCRD) is a forum of state environmental agencies designed to exchange

information and facilitate discussion of drycleaner remediation issues. In this training SCRD members will present information from a recently updated guidance document on conducting contamination assessment work at drycleaning sites. Salient aspects of this document will be presented, including: an overview of the drycleaning process, chemicals used, waste generation and management practices in the drycleaning industry, site reconnaissance, identifying sampling locations and environmental assessment technologies applied to drycleaning facilities. The guidance and internet seminar will help state regulators and practitioners identify likely areas of contamination and more effectively implement investigation approaches at current and former drycleaner facilities. For more information and to register, see <http://clu-in.org/live> .

> New Documents and Web Resources

New CLU-IN Contaminant Focus Area on Characterization and Remediation of Contaminated Fractured Rock Media.

This new area features a discussion of fractured rock characteristics and available tools to aid in the delineation of contaminants found in fractured rock. The remediation section is broken into various technologies with references on how they are used in fractured rock situations and provides example sites where the technology has been applied. View and use at <http://www.clu-in.org/fracrock> . Also, the fractured bedrock project profile database has been updated and now includes about 238 site profiles. View and use at <http://www.clu-in.org/products/fracrock/> .

Green Remediation Best Management Practices: Integrating Renewable Energy into Site Cleanup (EPA 542-F-11-006). The U.S. Environmental Protection Agency (EPA) Principles for Greener Cleanups outline the Agency's policy for evaluating and minimizing the environmental "footprint" of activities undertaken when cleaning up a contaminated site. Use of the best management practices (BMPs) identified in EPA's series of green remediation fact sheets can help project managers and other stakeholders apply the principles on a routine basis, while maintaining the cleanup objectives, ensuring protectiveness of a remedy, and improving its environmental outcome. Use of renewable energy resources provides a significant opportunity to reduce the environmental footprint of activities conducted during investigation, remediation, and monitoring of hazardous waste sites. Substitution of energy from fossil fuel resources with energy from renewable resources is a primary approach for addressing energy as one of the five core elements of green remediation strategies. In turn, lower consumption of fossil fuel will reduce emission of greenhouse gases (GHG) as well as particulate matter and other air pollutants (April 2011, 8 pages). View or download at <http://clu-in.org/techpubs.htm> .

Reusing Potentially Contaminated Landscapes: Growing Gardens in Urban Soils (EPA 542-F-10-011). EPA's new factsheet on urban gardening is now available. You will find information on common contaminants that can be found in urban soil, ways to identify contaminants and reduce exposure, improving soils and growing plants in mildly contaminated soil, and additional resources and technical assistance (Spring 2011, 12 pages). View or download at <http://clu-in.org/techpubs.htm> .

New Triad Profiles available on the Triad Resource Center Website. New Triad profiles have recently been added to the User Experiences section of the website. These profiles are concise summaries of successful Triad projects and are backed by a database that can be searched using various criteria such as contaminant, remedial phase, and technology category. Triad is an innovative approach to data collection and decision-making for hazardous waste site characterization and remediation, and the

U.S. Environmental Protection Agency's Triad Resource Center Website (<http://www.triadcentral.org>) is a central location for information about the Triad Approach. The website also offers a wide range of information about the use of the Triad including access to the Triad Community of Practice (CoP), Triad technical resources and guidance, and user experiences on the use of Triad at federal and private sites. For additional information or to add a Triad profile, contact Cheryl Johnson at Johnson.Cheryl@epa.gov. View and use at <http://www.triadcentral.org/user/profile/>.

Focused Review of Specific Remediation Issues: An Addendum to the Remediation System Evaluation for the Homestake Mining Company (Grants) Superfund Site, New Mexico, Region 6 (EPA 542-R-11-002). The current evaluation of the remediation efforts at the Homestake Mining Company (Grants) Superfund site has been conducted on behalf of the US EPA by the US Army Corps of Engineers Environmental and Munitions Center of Expertise. The evaluation is intended to supplement the previous Remediation System Evaluation (RSE) conducted for the site by Environmental Quality Management (EQM, 2008). Specific issues remaining from the RSE, as identified in the Scope of Work, have been addressed through data analysis and conceptual design (March 2011, 428 pages). View or download at <http://clu-in.org/techpubs.htm>.

In Small Doses: Arsenic. Researchers from the Dartmouth Toxic Metals Research Program have created a 10-minute video for the general public on the subject of arsenic. Funded by the National Institute of Environmental Health Sciences Superfund Research Program, the film brings home findings of research on arsenic in well water by identifying high-concentration areas in New England and offering pointers for residents relying on wells for their drinking water. To educate residents about health problems associated with arsenic and what they can do to protect themselves, Dartmouth provides links to additional information from EPA and the U.S. Geological Survey, as well as to state agencies that offer well-water testing for as little as \$10. View at <http://insmalldoses.org>.

> Conferences and Symposia

Water Balance Covers for Landfills & Mine Sites: Achieving Engineering and Regulatory Acceptance in the West, Denver, CO, May 17-19, 2011. This 2 1/2 day workshop is intended to teach owners and operators, consultants, and engineers how to design and submit quality proposals for water balance covers, and to teach regulators how to evaluate those proposals. Participants will learn the hydraulic properties of these covers, how to optimize designs with models, and how to ensure that the final product is environmentally protective. Topics will include alternative cover design, soil selection, construction, monitoring, including discussions of regulatory issues, soil physics, plant-soil-water relations, hydraulic balance, saturated/unsaturated water movement, and computer modeling. Regional case studies will be emphasized. For more information and to register, see <http://www.phytosociety.org>. For questions, to submit poster abstracts, or for mail-in registrations contact Steve Rock, 513-569-7149, rock.steven@epa.gov.

Registration Now Open!! International Conference on Sustainable Remediation 2011: State of the Practice, Amherst, MA, June 1-3, 2011. Sponsored by the Environmental Institute at the University of Massachusetts Amherst and the U.S. EPA Office of Superfund Remediation and Technology Innovation, the conference will address the interrelated themes of green chemistry, human health, and environmental response. Session presentations by scientists, practitioners, and regulators will feature

new research, field applications, and lessons learned. Leading researchers and regulatory experts will provide an overview of the sustainable remediation landscape and address research needs, policy and regulatory challenges moving forward. The conference will feature 2 keynote presentations, 24 technical sessions, poster presentations and a student poster competition, exhibits, and ample opportunities for networking. The 2010 Green Remediation Conference attracted hundreds of attendees (academia, government, non-profit, and private sector) from 16 countries and 31 States. For more information and to register, see <http://www.umass.edu/tei/conferences/SustainableRemediation/> .

Vapor Intrusion Pathway: A Practical Guideline ITRC 2-day Classroom Training, Novi, MI (Detroit area), July 18-19, 2011. Led by internationally recognized experts, this 2-day ITRC classroom training will enable you to learn the latest strategies to conduct site screening and investigations; determine what tools are appropriate to collect quality data and evaluate the results; apply multiple lines of evidence to ensure quality decision-making; build solutions for VI issues through understanding of mitigation options; and network with environmental professionals dealing with this interdisciplinary and complex pathway. Interactive learning with hands-on exhibits, classroom exercises, and frequent Q&A sessions will reinforce these course objectives and contribute to a practical understanding of this difficult pathway. For more information and to register, see <http://www.itrcweb.org/crt.asp> .

Practical Models Supporting Remediation of Chlorinated Solvents, Seattle, WA, July 26-27, 2011. Explore a subset of the publicly-available simulation and data analysis tools that can be used alone or in combination to answer questions such as: Will source remediation meet site goals? What will happen if no action is taken? Should I combine source and plume remediation? What is the remediation timeframe? What is a reasonable remediation objective? The model discussion will focus on the unique features of selected models and how those features can support strategy development. Emphasis will be on REMChlor, a newly released tool that simulates both source and plume remediation. By providing the ability to simulate sites where conditions change in space and time, REMChlor can provide information "equivalent" to the types of output from more sophisticated numerical models. For more information and to register, see <http://srnl.doe.gov/csgss/> .

Call for Abstracts and Registration Now Open!! Innovative Approaches to Mining Cleanup and Reuse Workshop, Arlington, VA, October 6th, 2011. This workshop is sponsored by the U.S. EPA Office of Superfund Remediation and Technology Innovation and the International Committee on Contaminated Land. Abstracts for presentations are welcome through July 29, 2011. The workshop will facilitate the information exchange and networking among professionals from the public and private sectors, domestic and international, on mining site cleanup and reuse and specifically address: building sustainability into mining site cleanup, innovations in mining site cleanup technologies, and engaging communities in site cleanup and reuse decisions. For more information, to register, and to submit an abstract for consideration, see <http://www.MiningWorkshop.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 34 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

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