

TechDirect, April 1, 2013

Welcome to TechDirect! Since the March 1 message, TechDirect gained 258 new subscribers for a total of 34,415. 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 groundwater.

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

Military Munitions Support Services Series, April 22, May 30, July 25, and August 29. This new series of monthly webinars supports the Military Munitions Support Services (M2S2) community. For more information and to register, see <http://clu-in.org/live> .

NARPM Presents...RCRA for RPMs - April 2, 2013, 1:00PM-3:00PM EDT (17:00-19:00 GMT). RCRA for RPMs explains the Resource Conservation and Recovery Act (RCRA) requirements that apply or are relevant and appropriate to most cleanups under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This session will focus on specific technical and regulatory issues that RPMs address in treating, transporting, and disposing of waste. For more information and to register, see <http://clu-in.org/live> .

NARPM Presents...Closeout Procedures for National Priorities List Sites - April 10, 2013, 1:00PM-3:00PM EDT (17:00-19:00 GMT). Close Out Procedures for National Priorities List Sites is designed to assist RPMs in understanding the requirements for achieving and documenting accomplishments for site close out. The EPA Office of Superfund Remediation and Technology Innovation (OSRTI) issued an updated version of the Close Out Procedures guidance in May 2011. The guidance describes the recommended process for accomplishing and documenting four key milestones for sites on the National Priorities List (NPL): remedial action completion, construction completion, site completion and site deletion (including partial deletion). This session assists new RPMs in understanding the requirements for each accomplishment. More experienced RPMs learn about the important changes that were made in the revised guidance. For more information and to register, see <http://clu-in.org/live> .

Arsenic - Interventions - April 15, 2013, 12:00PM-2:00PM EDT (16:00-18:00 GMT). In the first presentation SRP Researcher Joseph Calo, Ph.D., will discuss his team's latest research on developing a spouted vessel/fixed bed filter system for the removal of arsenic from water. The system uses zero-valent iron (ZVI) particles circulating in a spouted vessel that continuously generates active colloidal iron corrosion products. These corrosion products are generated by the "self-polishing" action between ZVI source particles rolling in the moving bed that forms on the conical bottom of the spouted vessel. This action also serves as a "surface renewal" mechanism for the particles and provides for maximum ZVI material utilization. The colloidal material

produced in this fashion is continuously captured and concentrated in an internal fixed bed filter where arsenic complexation occurs. This system has been shown to reduce 100 ug/L of arsenic to below detectable levels in less than an hour. Calo's presentation will focus on the spouted vessel/fixed bed filter system for removing arsenic from water, and he will share his most recent research results. In the second presentation SRP Researcher Girish Srinivas, Ph.D., will discuss research being conducted by TDA Research, Inc. (TDA) to develop a cost effective, simple point-of-use (POU) water purifier. The purifier is based on capacitive deionization (CDI) for removing problematic toxic ionic contaminants from well water not attached to a large public water works.

TDA's CDI technology can effectively remove perchlorate, nitrate, arsenic, lead, and other harmful inorganic ions from well water to meet EPA drinking water specifications in a simple, DC powered device. The technology can be used for POU applications (e.g. under the sink) in homes that use well water or in developing countries at well sites, where, if power is unavailable, it can be operated using a simple photovoltaic system. For more information and to register, see <http://clu-in.org/live>.

ITRC Project Risk Management for Site Remediation - April 16, 2013,

2:00PM-4:15PM EDT (18:00-20:15 GMT). Remediation Risk Management (RRM) is a course of action through which all risks related to the remediation processes (site investigations, remedy selection, execution, and completion) are holistically addressed in order to maximize the certainty in the cleanup process to protect human health and the environment. Remediation decisions to achieve such a goal should be made based on threshold criteria on human health and ecological risks, while considering all the other potential project risks. Through this training course and associated ITRC Technical and Regulatory Guidance Document: Project Risk Management for Site Remediation (RRM-1, 2011), the ITRC RRM team presents tools and processes that can help the site remediation practitioner anticipate, plan for, and mitigate many of the most common obstacles to a successful site remediation project. Examples of project risks include remediation technology feasibility risks; remedy selection risks; remedy construction, operation and monitoring risks; remedy performance and operations risks; environmental impacts of systems during their operation; worker safety risk, human health and ecological impacts due to remedy operation; as well as costs and schedules risks including funding and contracting issues. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

ITRC Incorporating Bioavailability Considerations into the Evaluation of Contaminated Sediment Sites - April 18, 2013, 11:00AM-1:15PM EDT (15:00-17:15 GMT).

ITRC's web-based Technical and Regulatory Guidance, Incorporating Bioavailability Considerations into the Evaluation of Contaminated Sediment Sites (Sed-1, 2011) and associated Internet-based training are intended to assist state regulators and practitioners with understanding and incorporating fundamental concepts of bioavailability in contaminated sediment management practices. This guidance and training describe how bioavailability considerations can be used to evaluate exposure at contaminated sediment sites, the mechanisms affecting contaminant bioavailability, available tools used to assess bioavailability, the proper application of those tools and how bioavailability information can be incorporated into risk-management decisions. This guidance and training also contain summaries of case studies where bioavailability has been assessed and considered in the contaminated sediment remedial decision making process. This guidance and training provide insight on how bioavailability assessments can be used to understand, mitigate and manage risk at a contaminated sediment site, often at a reduced overall project cost. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

ITRC Green & Sustainable Remediation - April 23, 2013, 2:00PM-4:15PM EDT

(18:00-20:15 GMT). Many state and federal agencies are just beginning to assess and apply green and sustainable remediation (GSR) into their regulatory programs. This training provides background on GSR concepts, a scalable and flexible framework and

metrics, tools and resources to conduct GSR evaluations on remedial projects. The training is based on the ITRC's Technical & Regulatory Guidance Document: Green and Sustainable Remediation: A Practical Framework (GSR-2, 2011) as well as ITRC's Overview Document, Green and Sustainable Remediation: State of the Science and Practice (GSR-1, 2011). Beyond basic GSR principles and definitions, participants will learn the potential benefits of incorporating GSR into their projects; when and how to incorporate GSR within a project's life cycle; and how to perform a GSR evaluation using appropriate tools. In addition, a variety of case studies will demonstrate the application of GSR and the results. The training course provides an important primer for both organizations initiating GSR programs as well as those organizations seeking to incorporate GSR considerations into existing regulatory guidance. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

NARPM Presents...Environmental Statutes for RPMs - April 24, 2013,

1:00PM-3:00PM EDT (17:00-19:00 GMT). This internet seminar provides a basic history and describes the major provisions of EPA statutes, such as the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Emergency Planning and Community Right-to-Know Act (EPCRA), the Safe Drinking Water Act (SDWA) and the Toxic Substances Control Act (TSCA). Participants learn how statutes and regulations are developed. The session provides an overview of U.S. environmental regulations that have been created to control, manage or modify our activities and the effects of these regulations on the health of human beings and the natural environment. Additionally, the session provides a brief history of environmental laws and the origins of EPA. For more information and to register, see <http://clu-in.org/live>.

ITRC Integrated DNAPL Site Strategy - April 25, 2013, 11:00AM-1:15PM EDT

(15:00-17:15 GMT). The ITRC Integrated Dense Nonaqueous Phase Liquid Site Strategy (IDSS-1, 2011) technical and regulatory guidance document will assist site managers in development of an integrated site remedial strategy. This course highlights five important features of an IDSS including: a conceptual site model (CSM) that is based on reliable characterization and an understanding of the subsurface conditions that control contaminant transport, reactivity, and distribution; remedial objectives and performance metrics that are clear, concise, and measurable; treatment technologies applied to optimize performance and take advantage of potential synergistic effects; monitoring based on interim and final cleanup objectives, the selected treatment technology and approach, and remedial performance goals; and reevaluating the strategy repeatedly and even modifying the approach when objectives are not being met or when alternative methods offer similar or better outcomes at lower cost. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

> New Documents and Web Resources

Optimization Review: Sidney and Richardson Hill Road Landfills, Delaware County, New York (EPA 542-R-11-011). The 72-acre Sidney Landfill site is located on Richardson Hill Road, approximately 2 miles south of the Village of Sidney Center in Delaware County, New York. The Richardson Hill Road Landfill (RHRL) site is located immediately to the south of the Sidney Landfill site. The remedies at both National Priorities List (NPL) sites have been implemented by the responsible parties, Amphenol Corporation and Honeywell, Inc., which are the successors to Bendix Corporation and Allied Signal, Inc. These parties are collectively referred to as the Potentially Responsible Parties (PRP) for this report. The capture zone associated with extraction wells at the northern end of the RHRL site is considered part of the Sidney Landfill remedy. The identification of new seeps downhill to the north from the Sidney Landfill,

the presence of an apparent hydraulic connection between the two landfills, as well as the persistence of groundwater and sediment contamination at the RHRL site led the EPA to request a study of optimization opportunities for the remedies at these two sites.

This optimization review focuses on the groundwater components of the remedies for the two sites and considers soil and sediment contamination only as it may be related to groundwater contamination (August 2012, 82 pages). View or download at

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

Optimization Review: Peck Iron and Metal Superfund Site, Portsmouth, Virginia

(EPA 542-R-13-006). The Peck Iron and Metal (PIM) Superfund Site (the Site) is a 33-acre property located in Norfolk County, Portsmouth, Virginia. PIM is a former scrap metal storage and recycling facility that began operation in the 1940s. This document reviews the PIM Site conceptual site model (CSM) and identifies data gaps in the existing Site characterization as a means to focus and streamline the sequence of Remedial Investigation (RI) activities. The purpose of this review is to evaluate Site conditions and identify optimal approaches for conducting the planned RI of the PIM site. The recommendations in this report are intended to help the site team identify opportunities for an optimized RI approach (January 2013, 136 pages). View or download at <http://clu-in.org/techpubs.htm> .

Optimization Evaluation: Gilt Edge Mine Superfund Site Water Treatment Plant, Lawrence County, South Dakota (EPA 542-R-13-002).

The Gilt Edge Mine Superfund Site (Site) is located in the northern Black Hills of South Dakota. The primary mine disturbance area covers approximately 360 acres. The optimization review is focused on current acid rock drainage (ARD) collection and water treatment plant (WTP) operations and proposed upgrades. The optimization review includes discussion and evaluation of influent sources, metals mass loading, discharge criteria, solids handling and an operating cost breakdown. Other components of the Site remedy are considered only as they relate to ARD collection and treatment (January 2013, 59 pages). View or download at <http://clu-in.org/techpubs.htm> .

Technology Innovation News Survey Corner. The Technology Innovation News Survey contains market/commercialization information; reports on demonstrations, feasibility studies and research; and other news relevant to the hazardous waste community interested in technology development. Recent issues, complete archives, and subscription information is available at <http://clu-in.org/products/tins/> . The following resources were included in recent issues:

- RDX in Plant Tissue Leading to Humification in Surface Soils
- Evaluation of Invasive and Non-Invasive Techniques for Monitoring of Remediation Processes and Performance
- Upscaling of Remediation Monitoring Techniques
- Elucidation of the Mechanisms and Environmental Relevance of cis-Dichloroethene and Vinyl Chloride Biodegradation
- Compilation and Review of Data on Relative Bioavailability of Arsenic in Soil
- Validation of an In Vitro Bioaccessibility Test Method for Estimation of Bioavailability of Arsenic from Soil and Sediment
- Quantifying Enhanced Microbial Dehalogenation Impacting the Fate and Transport of Organohalide Mixtures in Contaminated Sediments
- SERDP and ESTCP Workshop on Research and Development Needs for Long-Term Management of Contaminated Sediments
- Passive PE Sampling in Support of In Situ Remediation of Contaminated Sediments: Standard Operating Procedure for PE Analysis
- Verification of Methods for Assessing the Sustainability of Monitored Natural Attenuation (MNA)

EUGRIS Corner. New Documents on EUGRIS, the platform for European

contaminated soil and water information. More than 10 resources, events, projects and news items were added to EUGRIS in March. These can be viewed at <http://www.eugris.info/whatsnew.asp> . Then select the appropriate month and year for the updates in which you are interested. The following resource was posted on EUGRIS:

The Management of Brownfields Redevelopment : A Guidance Note (2010). This World Bank guidance note is primarily addressed to local or regional public authorities responsible for the management of brownfields in the transition economies of Central and Eastern Europe. The main impetus for this work is to offer perspectives and solutions to one of the many challenges cities are facing, especially in post-socialist emerging market environments, where urban brownfields are a major hurdle to transforming local economies. Brownfields are understood here as derelict or underused sites with real or perceived contamination problems that create an obstacle to their development potential. As such, these sites represent both a problem and an opportunity. View or download at <http://documents.worldbank.org/curated/en/2010/03/12413206/management-brownfields-redevelopment-guidance-note> .

> Conferences and Symposia

LNAPLs: Science, Management, and Technology ITRC 2-day Classroom Training offered three times in 2013: King of Prussia, PA (April 9-10, 2013), Springfield, IL (June 4-5, 2013), and Garden Grove, CA (October 1-2, 2013). Led by internationally recognized experts, this 2-day ITRC classroom training will enable you to develop and apply an LNAPL Conceptual Site Model (LCSM), understand and assess LNAPL subsurface behavior, develop and justify LNAPL remedial objectives including maximum extent practicable considerations, select appropriate LNAPL remedial technologies and measure progress, and use ITRC's science-based LNAPL guidance to efficiently move sites to closure. Interactive learning with classroom exercises and Q&A sessions will reinforce these course learning objectives. For local, state, and federal government; students; community stakeholders; and tribal representatives, ITRC has a limited number of scholarships (waiver of registration fee only) available. For more information and to register, see <http://www.itrcweb.org/training> .

AquaConSoil 2013 Conference, Barcelona, Spain, April 16-19, 2013. The AquaConSoil (formerly ConSoil) conference continues the tradition of serving as Europe's largest conference on applied knowledge of the management of soil-water systems. As organized by UFZ and Deltares, the conference themes address sustainable use of soil-water systems; resource management with a special focus on arid and semiarid regions; monitoring and assessment; remediation of contaminated water, soil, and sediment; and concepts and policies for sustainable management of soil-water systems and resource efficiency. For more information and to register, see <http://www.aquaconsoil.org/> .

Facility Decommissioning Training Course, Deep River, Ontario, Canada, May 7-9, 2013. The purpose of the course is to provide information on the basic steps in the decommissioning process and impart lessons learned from past experiences in decommissioning. In this manner, elements learned at this training course will assist in decision-making, planning, and implementation associated with the decommissioning of various types of nuclear facilities. Moreover, a major objective of this training course is to demonstrate the need for early and complete project planning to achieve safe and cost-effective decommissioning of research reactors and other small nuclear installations. For more information and to register, see <http://www.dd.anl.gov/ddtraining/> .

Training Sessions at the Brownfields 2013 Conference, Atlanta, GA, May 15,

2013. EPA's Office of Solid Waste and Emergency Response (OSWER) will be offering three training sessions on May 15 in conjunction with the Brownfields 2013 Conference in Atlanta, GA. Training Sessions will include: (1) Best Management Practices for Site Assessment, Remediation and Greener Cleanups; (2) Brownfields Road Map Training; and (3) Leveraging Contracts for Innovative Site Characterization and Cleanup. All sessions will be held at the Georgia World Congress Center (285 Andrew Young International Blvd NW, Atlanta, GA). For more information and to register, see http://www.trainex.org/TIFSD_BF2013/ .

Registration Now Open!! Applications of Nanotechnology for Safe and Sustainable Environmental Remediations, Hammond, LA, June 5-7, 2013. This is the first national workshop that provides an opportunity for representatives from the environmental remediation community, industry, academia, and government to: share their perspectives, pose questions, and develop ideas for design of good guidelines, selection criteria, and work practices to support safe and sustainable nano-enabled environmental remediation; become acquainted with other U.S. nanotechnology stakeholders, including vendors, transporters, and contractors of the remediation sites and communities; and share case studies of nano-enhanced clean up technologies, including selection criteria for alternative remediation strategies and methods, job planning, job tasks, and nanomaterial handling practices. For more information and to register, see http://www.selu.edu/acad_research/programs/nano_4_rem_anssers/ .

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. 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/techdirect> at any time night or day.

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