TechDirect, August 1, 2013

Welcome to TechDirect! Since the July 1 message, TechDirect gained 223 new subscribers for a total of 35,195. 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

CEC Hazard Ranking System (HRS) Webinar Series - October 15, 17, 21, 22, 28, and 30. The Hazard Ranking System (HRS) webinar series is an intermediate-level course designed for personnel who are required to compile, draft and review preliminary assessments (PA), site inspections (SI), and HRS documentation records/packages submitted for proposal to the National Priorities List (NPL). **The course is intended for EPA Regional, state, tribal and contractor personnel, who support EPA in the Superfund site assessment/NPL listing process.** This course assumes a basic understanding of the HRS and its context within the site assessment process. The training course is intended to enable staff to prepare HRS packages for the NPL and to plan PAs and SIs to address future HRS scoring issues. This training course provides details of the structure and application of the revised HRS and information related to the preparation of HRS packages, including HRS scoresheets, documentation records and site summaries. The course will incorporate an interactive case study to provide practical application of the HRS. The webinar series consists of six two-hour sessions over three weeks. In order to receive credit for taking the course, participants must participate in each session. If you are unable to make one of the sessions, archived versions will be made available at www.clu-in.org that you can take to receive credit for the missed live session. In order to receive credit for a missed session, you must complete the missed session within 2 months of the originally scheduled date and submit an evaluation form from that archived module. For more information and to register, see http://clu-in.org/live .

ITRC Environmental Molecular Diagnostics: New Tools for Better Decisions - August 8, 2013, 11:00AM-1:15PM EDT (15:00-17:15 GMT). Environmental molecular diagnostics (EMDs) are a group of advanced and emerging analytical techniques used to analyze biological and chemical characteristics of environmental samples. Although EMDs have been used over the past 25 years in various scientific fields, particularly medical research and diagnostic fields, their application to environmental remediation management is relatively new and rapidly developing. The ITRC Environmental Molecular Diagnostics Fact Sheets (EMD-1, 2011), ITRC Environmental Molecular Diagnostics Technical and Regulatory Guidance (EMD-2, 2013) and this companion Internet-based training will foster the appropriate uses of EMDs and help regulators, consultants, site owners, and other stakeholders to better understand a site and to make decisions based on the results of EMD analyses. At the conclusion of the

training, learners will be able to determine when and how to use the ITRC Environmental Molecular Diagnostics Technical and Regulatory Guidance (EMD-2, 2013); define when EMDs can cost-effectively augment traditional remediation data sets; and describe the utility of various types of EMDs during remediation activities. For more information and to register, see http://www.itrcweb.org or http://clu-in.org/live .

Renewable Energy Projects on Federal Lands: A Practical Guide and Examples - August 8, 2013, 2:00PM-4:00PM EDT (18:00-20:00 GMT). This webinar will present a practical guide developed by the U.S. Department of Energy's Federal Energy Management Program (DOE/FEMP) to help navigate the complexities of developing large renewable energy projects at Federal Facilities and attracting the necessary private capital to complete them. The guide is available for download from the DOE FEMP website (http://www1.eere.energy.gov/femp/pdfs/large-scalereguide.pdf). In addition, two specific areas will be discussed in which renewable energy was sited on Federal sites with historic contamination. The Massachusetts Military Reservation (MMR), a property historically used for military training activities, has renewable energy projects - wind, solar and geothermal - installed and in development by multiple organizations within the Department of Defense, the U.S Coast Guard and the Department of Veterans Affairs. The MMR site participated in the first EPA-NREL RE-Powering Feasibility Studies in 2009 and is among the first feasibility study sites to move forward with a renewable energy development project. For more information on that solar study, go to the RE-Powering Feasibility Study webpage (http://www.epa.gov/renewableenergyland/rd_studies.htm) or access the report directly (http://www.nrel.gov/docs/fy11osti/49417.pdf). At the DOE Pantex site near Amarillo, Texas, an 11.5 MW wind energy farm is being developed to generate approximately 45 million kilowatt-hours of electricity annually, meeting more than 60% of the installation's annual energy needs. For more information and to register, see http://clu-in.org/live .

ITRC Soil Sampling and Decision Making Using Incremental Sampling Methodology Parts 1 and 2 - August 20 and 27, 2013. This 2-part training course along with ITRC's web-based Incremental Sampling Methodology Technical and Regulatory Guidance Document (ISM-1, 2012) is intended to assist regulators and practitioners with the understanding the fundamental concepts of soil/contaminant heterogeneity, representative sampling, sampling/laboratory error and how ISM addresses these concepts. Through this training course you should learn: basic principles to improve soil sampling results, systematic planning steps important to ISM, how to determine ISM Decision Units (DU), the answers to common questions about ISM sampling design and data analysis, methods to collect and analyze ISM soil samples, the impact of laboratory processing on soil samples, and how to evaluate ISM data and make decisions. In addition this ISM training and guidance provides insight on when and how to apply ISM at a contaminated site, and will aid in developing or reviewing project documents incorporating ISM (e.g., work plans, sampling plans, reports). For more information and to register, see http://www.itrcweb.org or http://clu-in.org/live .

Estimating Environmental Footprints Using SEFA (Spreadsheets for Environmental Footprint Analysis) - August 22, 2013, 2:00PM-4:00PM EDT (18:00-20:00 GMT). The process of cleaning up a hazardous waste site uses energy, water and other natural or materials resources and consequently creates an environmental footprint of its own. In 2012, the EPA released the "Methodology for Understanding and Reducing a Project's Environmental Footprint" which presents green remediation metrics associated with contaminated site cleanup and a process to quantify those metrics in order to achieve a greener cleanup. In conjunction with the Methodology, the EPA developed a set of analytical workbooks known as "SEFA" (Spreadsheets for Environmental Footprint Analysis), which can be used to quantify the environmental footprint of a site cleanup. This 2-hour internet seminar will provide an overview of the SEFA tool, demonstrate how to use the tool and provide case studies on sites where the tool has been used. Opportunities will be provided throughout the

seminar for participants to submit questions and observations regarding the SEFA tool. For more information and to register, see http://clu-in.org/live .

The Use of Passive Samplers to Monitor Organic Contaminants at Superfund Sediment Sites - August 26, 2013, 2:00PM-4:00PM EDT (18:00-20:00 GMT). Passive samplers are useful new tools for assessing contaminant exposures and evaluating the potential for adverse environmental effects at Superfund sites. Since the 1990s, passive samplers have been used for monitoring contaminant concentrations in the water column, soil and sediment interstitial waters, and air at sites around the world. However, their use in sediments to date has been primarily for research. This webinar will introduce the concepts behind passive sampling, the types of passive samplers currently available to monitor dissolved organic contaminants, and the general methods for deployment and analysis. It will also discuss the potential uses of passive samplers in the different phases of the Superfund process and the advantages and disadvantages of their use. This webinar is based on, and complementary to, the recently released Sediment Assessment and Monitoring Sheet on the use of passive samplers at Superfund sites, published by EPA in December, 2012, and available at http://www.epa.gov/superfund/health/conmedia/sediment/documents.htm. For more information and to register, see http://clu-in.org/live .

Military Munitions Support Services - Case Studies and Lessons Learned - August 29, 2013, 1:00PM-4:45PM EDT (17:00-20:45 GMT). This is the last monthly webinar session for the Military Munitions Support Services (M2S2) community. During this session, speakers will make presentations on a variety of case studies and lessons learned from the investigation and remediation of munitions projects. For more information and to register, see http://clu-in.org/live .

Mining Site Metals: Exposure Pathways and Bio-Assays - September 3, 2013, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This two-part seminar will feature Dr. Miranda Loh and Dr. Robert Root from the University of Arizona Superfund Research Program and will focus on characterizing arsenic exposure at a former mine and smelter site in Arizona. For more information and to register, see http://clu-in.org/live .

Biofuels: Release Prevention, Environmental Behavior, and Remediation - September 5, 2013, 11:00AM-1:15PM EDT (15:00-17:15 GMT). This training, which is based on the ITRC's Biofuels: Release Prevention, Environmental Behavior, and Remediation (Biofuels-1, 2011), focuses on the differences between biofuels and conventional fuels specific to release scenarios, environmental impacts, characterization, and remediation. The trainers will define the scope of the potential environmental challenges by introducing biofuel fundamentals, regulatory status, and future usage projections. Participants will learn how and when to use the ITRC biofuels guidance document for their projects. They will understand the differences in biofuel and petroleum behavior; become familiar with the biofuel supply chain, potential release scenarios and release prevention; be able to develop an appropriate conceptual model for the investigation and remediation of biofuels; and select appropriate investigation and remediation strategies. For more information and to register, see http://www.itrcweb.org or http://clu-in.org/live .

SRP Funding Opportunities Web Seminar - September 5, 2013, 2:30PM-3:30PM EDT (18:30-19:30 GMT). The SRP will be holding a web seminar to provide information about the recently released Individual Research Grants (R01) Funding Opportunity Announcement: Biogeochemical Interactions Affecting Bioavailability for in situ Remediation of Hazardous Substances. During this webinar Superfund Research Program personnel will review the FOA and answer participants' questions. For more information and to register, see http://clu-in.org/live .

> New Documents and Web Resources

The Roles of Project Managers and Laboratories in Maintaining the Representativeness of Incremental and Composite Soil Samples (OSWER 9200.1-117FS). This fact sheet explains how improved processing of soil samples to control the effects of soil heterogeneity will improve data quality and decision-making. It recommends application of incremental-composite sampling procedures in the laboratory to improve soil processing and subsampling precision (June 2013, 6 pages). View or download at http://clu-in.org/techpubs.htm .

Optimization Review: French Gulch/Wellington-Oro Mine Site Water Treatment Plant, Breckenridge, Summit County, Colorado (EPA 542-R-13-013). The document discusses the optimization review performed at the French Gulch/Wellington-Oro Mine Site. The optimization review is focused on the water treatment plant operational effectiveness and efficiency. The optimization review includes discussion and evaluation of influent sources, metals mass loading, discharge criteria, solids handling and an operating cost breakdown (May 2013, 63 pages). View or download at http://clu-in.org/techpubs.htm .

Long-Term Monitoring Optimization Review - Intel Magnetics/Micro-Storage Corporation Site, Santa Clara, CA. This memorandum summarizes the results of a long term monitoring (LTM) optimization review for the Intel Magnetics and Micro-Storage Corporation (IM/MSC) site, located in Santa Clara, California. The review focused on the conceptual site model (CSM) and opportunities for optimizing the site's LTM program, including strategic recommendations for future LTM efforts (February 2013, 73 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:

- Use of Activated Carbon to Control Volatilization of Organic Contaminants from the Indiana Harbor Confined Disposal Facility
- Review of Mine Drainage Treatment and Sludge Management Operations
- Interim Inventory and Assessment of Abandoned Mineral Lands in the National Park System
- New Institutional Controls (IC) Data Flow Now Available
- Cooperative Technology Demonstration: Polymer-Enhanced Subsurface Delivery and Distribution of Permanganate
- Dense Non Aqueous Phase Liquid (DNAPL) Removal from Fractured Rock Using Thermal Conductive Heating (TCH): ESTCP Cost and Performance Report
- Enhanced Attenuation of Unsaturated Chlorinated Solvent Source Zones Using Direct Hydrogen Delivery
- A Permeable Active Amendment Concrete (PAAC) for Contaminant Remediation and Erosion Control
- Use of Dioxin TEFs in Calculating Dioxin TEQs at CERCLA and RCRA Sites
- Occurrence and Mobility of Mercury in Groundwater
- NPL Superfund Footprint: Site, Population, and Environmental Characteristics

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 11 resources, events, projects and news items were added to EUGRIS in July. 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:

Mercury Contaminated Land Management State of the Art (NICOLE 2013). Mercury exhibits physical and chemical properties (liquid metal, surface tension, vapor pressure) which make it unique and which make the characterization of mercury contamination at industrial sites a challenge. Its distribution, transport and migration are unlike that for other metals found at industrially contaminated sites. Characterization, fate & transport modeling and management of mercury contaminated sites are challenging due to mercurys unique behavior in the environment. View or download at http://www.nicole.org/uploadedfiles/2013-Mercury-State-of-the-Art-June-2013.pdf.

> Conferences and Symposia

Groundwater High-Resolution Site Characterization (HRSC), Philadelphia, PA, August 27-28, Chicago, IL, September 24-25, San Francisco, CA, December 12-13. This is a two-day training course that focuses on groundwater characterization and discusses (1) the impacts of subsurface heterogeneity on the investigation and cleanup of groundwater and related media, (2) the need for scale-appropriate measurements and adequate data density, and (3) the tools and strategies that are available to overcome the impacts of subsurface heterogeneity. After taking this course, participants will be armed with information that will allow them to improve their subsurface investigation approaches and develop more realistic and comprehensive conceptual site models (CSM). CSMs developed based on HRSC strategies and tools will decrease site uncertainty, improve the remedy selection process for groundwater remedies, and better enable the evaluation, design, and implementation of targeted in situ and ex situ groundwater remedies. The recommended audience for this course includes EPA, federal, state, tribal, and private industry technical project managers, practitioners and other stakeholders involved in groundwater investigation and remediation. For more information and to register, see http://www.trainex.org/hrsc .

U.S. EPA's Region 9 State-of-the-Science Workshop on Mercury Remediation in Aquatic Environments, San Francisco, CA, September 26, 2013. As part of implementing EPA Region 9's strategic plan, ORD and the Region are planning a state of the science workshop to investigate the latest in remediation techniques for mercury contaminated sites in aquatic environments. The workshop will be held on Thursday, September 26th at the EPA office in San Francisco. Participation is also possible via webinar. The objective is to understand the key mechanisms linking source loads, methylation, and bioaccumulation of mercury to guide future remediation decisions. The workshop will examine the effect of current remediation practices, such as removing/capping lake sediments, isolating retort or tailings from waters, and on levels of mercury in fish tissue. We want to know whether removing these mercury sources have a real effect on fish tissue levels and to understand the key mechanisms that actually cause fish tissue levels to drop. And we want to better understand what will directly affect the methylation process at specific sites so that concrete actions can be taken to reduce fish tissue levels. The workshop is open to anyone working on or interested in this topic - regulators, industry, academics and consultants are all invited. There is no cost for the workshop. There are hookup limits to the webinar option, so if you are aware of other interested colleagues, please consider sharing a single registration. For more information and to register, see http://www.trainex.org/hg .

LNAPLs: Science, Management, and Technology ITRC 2-day Classroom Training, 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 .

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. To unsubscribe, send a blank email to $subst('Email.UnSub'). Remember, you may subscribe, unsubscribe or change your subscription address at http://clu-in.org/techdirect at any time night or day.