



TechDirect, March 1, 2019

Welcome to TechDirect! Since the February 1 message, TechDirect gained 74 new subscribers for a total of 38,947. If you feel the service is valuable, please share TechDirect with your colleagues. Anyone interested in subscribing may do so on CLU-IN at <https://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

ITRC Groundwater Statistics for Environmental Project Managers - March 7, 2019, 1:00PM-3:15PM EST (18:00-20:15 GMT). Statistical techniques may be used throughout the process of cleaning up contaminated groundwater. It is challenging for practitioners, who are not experts in statistics, to interpret, and use statistical techniques. ITRC developed the Technical and Regulatory Web-based Guidance on Groundwater Statistics and Monitoring Compliance (GSMC-1, 2013) and this associated training specifically for environmental project managers who review or use statistical calculations for reports, who make recommendations or decisions based on statistics, or who need to demonstrate compliance for groundwater projects. The training class will encourage and support project managers and others who are not statisticians to: use the ITRC Technical and Regulatory Web-based Guidance on Groundwater Statistics and Monitoring Compliance (GSMC-1, 2013) to make better decisions for projects; apply key aspects of the statistical approach to groundwater data; and answer common questions on background, compliance, trend analysis, and monitoring optimization. ITRC's Technical and Regulatory Web-based Guidance on Groundwater Statistics and Monitoring Compliance (GSMC-1, 2013) and this associated training bring clarity to the planning, implementation, and communication of groundwater statistical methods and should lead to greater confidence and transparency in the use of groundwater statistics for site management. For more information and to register, see <http://www.itrcweb.org> or <https://clu-in.org/live>.

ITRC Long-term Contaminant Management Using Institutional Controls - March 21, 2019, 1:00PM-3:15PM EDT (17:00-19:15 GMT). Institutional controls (ICs) are administrative or legal restrictions that provide protection from exposure to contaminants on a site. When ICs are jeopardized or fail, direct exposure to human health and the environment can occur. While a variety of guidance and research to date has focused on the implementation of ICs, ITRC's Long-term Contaminant

Management Using Institutional Controls (IC-1, 2016) guidance and this associated training class focuses on post-implementation IC management, including monitoring, evaluation, stakeholder communications, enforcement, and termination. The ITRC guidance and training will assist those who are responsible for the management and stewardship of ICs. After attending the training, participants will be able to: describe best practices and evolving trends for IC management at individual sites and across state agency programs; use this guidance to improve IC reliability and prevent IC failures, improve existing, or develop new, IC Management programs, identify the pros and cons about differing IC management approaches; use the tools to establish an LTS plan for specific sites; and use the elements in the tools to understand the information that should populate an IC registry or data management system. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

NAVFAC OER2 Webinar: EPA's Superfund Optimization Program - March 21, 2019, 2:00PM-3:00PM EDT (19:00-20:00 GMT). This webinar presents an overview of the USEPA's "Superfund Optimization Program." It presents the basic optimization components, reviews the OSRTI optimization process and summarizes optimization accomplishments spread over the last 20 years. The presentation reviews key COCs and treatment options with respect to remedy selection and optimization results for presumptive and innovative remedial strategies. Finally, the presentation highlights key conclusions and offers a way forward for optimization with in the Superfund Remedial Acquisition Framework. This webinar is suitable for both newcomers to the optimization dialogue as well as seasoned participants. For more information and to register, see <https://cc.readytalk.com/r/vmribstwrk37&eom>.

Military Munitions Support Services - Risk Management Method for MMRP - April 3, 2019, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This session is focused to present findings from trial use of the USACE Risk Management Method for MMRP sites, with results from multiple case studies and programs. Session will summarize positives, as well as challenges and identify areas for improvement. For more information and to register, see <http://clu-in.org/live>.

ITRC Integrated DNAPL Site Characterization - April 4, 2019, 1:00PM-3:15PM EDT (17:00-19:15 GMT). The Integrated DNAPL Site Characterization Team has synthesized the knowledge about dense nonaqueous phase liquid (DNAPL) site characterization and remediation acquired over the past several decades, and has integrated that information into a new document, Integrated DNAPL Site Characterization and Tools Selection (ISC-1, 2015). This guidance is a resource to inform regulators, responsible parties, other problem holders, consultants, community stakeholders, and other interested parties of the critical concepts related to characterization approaches and tools for collecting subsurface data at DNAPL sites. After this associated training, participants will be able to use the guidance to develop and support an integrated approach to DNAPL site characterization, including: identify what site conditions must be considered when developing an informative DNAPL conceptual site model (CSM); define an objectives-based DNAPL characterization strategy; understand what tools and resources are available to improve the identification, collection, and evaluation of appropriate site characterization data; and navigate the DNAPL characterization tools table and select appropriate technologies to fill site-specific data gaps. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

Highlight from the CLU-IN Seminar Archives. Each edition of TechDirect highlights a previously recorded internet seminar from our archives that may be of interest to our readers. We welcome your feedback on this addition to Techdirect.

Re-imagining the Future of Mining Sites, Sponsor US EPA, Office of Land and Emergency Management (OLEM), Superfund Redevelopment Initiative, Archived

December 7, 2016 Seminar (1 Hour, 30 Minutes). Mining activities form an integral part of both historic and current economies in the United States. However, mining operations can also leave behind legacies of contamination. While abandoned mines no longer operate, many continue to have impacts on human health and the environment. At the same time, new and existing mining operations continue to expand. EPA works with mining stakeholders, including other federal agencies, states, tribes, local groups, and industries, not only to address the serious health and environmental challenges posed by some mining practices, but also to support the reuse of these areas to benefit the surrounding community. This webinar explored the broad spectrum of safe and productive reuses possible at mining sites and present a case study highlighting several of these reuses in practice at a mining site in Salt Lake City, Utah. To replay the archived webinar, visit https://clu-in.org/conf/tio/SRI_120716/ .

> New Documents and Web Resources

EPA's Per- and Polyfluoroalkyl Substances (PFAS) Action Plan. This Action Plan describes EPA's approach to identifying and understanding PFASs, addressing current PFAS contamination, preventing future contamination, and effectively communicating with the public about PFASs. The Action Plan describes broad actions underway to address challenges with PFASs in the environment as well as other short- and long-term actions currently being implemented. View at <https://www.epa.gov/pfas/epas-pfas-action-plan>.

Superfund Research Program Research Brief 290: Promising Membrane Technology Reduces Chlorobenzene in Groundwater. A new Superfund Research Program (SRP) collaboration has developed a promising groundwater cleanup technology that provides an efficient, low-maintenance method of removing chlorobenzene and other compounds from water. The method integrates electrochemical oxidation, which uses electricity to transform contaminants into non-toxic substances, and membranes containing palladium (Pd), a metal used as a catalyst in many industrial chemical synthesis applications and groundwater treatment. For more information, see https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=290. To get monthly updates on research advances from the SRP you can subscribe to their Research Brief mailing list at <https://list.nih.gov/cgi-bin/wa.exe?SUBED1=SRP-BRIEF&A=1>.

SERDP ETSCP Projects on Treatment Demonstrations in Fractured Bedrock. Management and remediation of fractured bedrock aquifers impacted with chlorinated solvents, such as tetrachloroethene (PCE) and trichloroethene (TCE), remain a significant environmental challenge for the Department of Defense (DoD). These challenges are due to a combination of the complex fracture flow field, uncertainties associated with contaminant distribution among fractures, microfractures, and the rock matrix, and ultimately the difficulties with understanding these complexities as they relate to remedial impacts on both short and long-term groundwater quality. The costs associated with drilling, testing, and monitoring in these fractured bedrock systems are also a great challenge for site management. SERDP and ESTCP projects addressing contamination in fractured rock have studied bioaugmentation as a cost-effective treatment for dense non-aqueous phase liquid (DNAPL) sources present in the fracture zones. They have also developed and evaluated a novel push-push remedial assessment technique, coupled with compound specific isotope analysis (CSIA), for use as a rapid and cost-effective means to assess the limits of in situ remediation in fractured bedrock systems. View more information at <https://serdp-estcp.org/News-and-Events/Blog/Treatment-Demonstrations-in-Fractured-Bedrock> .

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 <https://clu-in.org/products/tins/>. The following resources were included in recent issues:

- Development of a Passive Flux Meter Approach to Quantifying 1,4-Dioxane Mass Flux
- Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537
- Rod and Wire Mill Interim Measures Progress Report, August 2018, Tradeport Atlantic, Sparrows Point, Maryland
- Sewers and Utility Tunnels as Preferential Pathways for Volatile Organic Compound Migration into Buildings: Risk Factors and Investigation Protocol
- Evaluating the Efficacy of Bioaugmentation for In-Situ Treatment of PCB Impacted Sediments
- Evaluation of Perched Water Post-Extraction Remedy Technologies: Interim Status Report
- Applied Studies & Technology Variation in Groundwater Aquifers: Results of Phase II Field Investigations and Final Summary Report
- Mercury Remediation Technology Development for Lower East Fork Poplar Creek: FY2018 Update
- Technical Measurement Guidance for LNAPL Natural Source Zone Depletion
- Alternatives for the Demilitarization of Conventional Munitions
- 2018 EPA International Decontamination Research and Development Conference
- Superfund and Bankruptcy: Summary of Impacts, Issues and Risks Associated with PRP Bankruptcy
- Aquatox (Release 3.2): Modeling Environmental Fate and Ecological Effects in Aquatic Ecosystems
- A Practical Approach for Modeling Matrix Diffusion Effects in REMChlor
- How to Assess Potential Biological Effects of Subaqueous Disposal of Mine Tailings: Literature Review and Recommended Tools and Methodologies
- Global Cover System Design: Technical Guidance Document
- Engaging Stakeholders in Natural Resource Decision-Making

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 21 resources, events, projects and news items were added to EUGRIS in February 2019. 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.

> Conferences and Symposia

Groundwater High-Resolution Site Characterization (HRSC), Chicago, IL, August 14-15, 2019. This training course 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 Groundwater HRSC course is an advanced 2-day course. The recommended audience 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 <https://trainex.org/hrsc>.

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 <https://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 Jean Balent at (703) 603-9924 or balent.jean@epa.gov. Remember, you may subscribe, unsubscribe or change your subscription address at <https://clu-in.org/techdirect> at any time night or day.

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