



TechDirect, September 1, 2024

Welcome to TechDirect! Since the August 1 message, TechDirect gained 79 new subscribers for a total of 43,992. 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 1,4-Dioxane: Science, Characterization & Analysis, and Remediation Training - September 5, 2024, 1:00PM-3:15PM EST (17:00-19:15 GMT). In 2020, ITRC's 1,4-Dioxane team created multiple tools and documents that provide information to assist all interested stakeholders in understanding this contaminant and for making informed, educated decisions. Since the 1950s, 1,4-Dioxane has seen widespread use as a solvent stabilizer. The use of solvents through the 1980s suggests its presence at thousands of solvent sites in the US; however, it is not always a standard compound in typical analytical suites for hazardous waste sites, so it previously was overlooked. The U.S. EPA has classified 1,4-Dioxane as "likely to be carcinogenic to humans." Some states have devised health standards or regulatory guidelines for drinking water and groundwater standards; these are often sub-part per billion values. These low standards present challenges for analysis, characterization, and remediation of 1,4-Dioxane. This training is a series of six (6) modules. The six individual modules will be presented together live, and then archived on the ITRC 1,4-Dioxane training webpage for on demand listening. For more information and to register, see <https://www.itrcweb.org> or <https://www.clu-in.org/live>.

Federal Facilities Online Academy: Record of Decision (RODs) and More at Federal Facilities - September 12, 2024, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This webinar is a two-hour course that will provide an overview of how early and interim actions, adaptive management, RODs, Explanations of Significant Differences (ESDs), and ROD Amendments are used at Federal Facilities. The instructional methodology for this course includes lecture, group discussions, case studies, and quizzes. The target audience for this course is federal, state, and tribal representatives who work on Federal Facility cleanups. For more information and to register, see <https://www.clu-in.org/live>.

ITRC Vapor Intrusion Mitigation (VIM-1) - A Two Part Series Training - September

19 and October 3, 2024, 1:00PM-3:00PM EDT (17:00-19:00 GMT). The ITRC Vapor Intrusion Mitigation Team (VIMT) created ten fact sheets, 16 technology information sheets, and 4 checklists with the goal of assisting regulators during review of vapor intrusion mitigation systems, and helping contractors understand the essential elements of planning, design, implementation, and operation, maintenance and monitoring (OM&M) of mitigation systems. This training series provides an overview of vapor intrusion mitigation and presents information from the ITRC fact sheets, technology information sheets, and checklists (VIM-1, 2021). For more information and to register, see <https://www.itrcweb.org> or <https://www.clu-in.org/live>.

ITRC Pump & Treat Optimization Training - September 24, 2024, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This training aims to summarize existing information and best practices while also developing a systemic and adaptive optimization framework specifically for P&T well-network design and management. The goal of the training is to provide a roadmap for optimizing a P&T system and refining the remedial strategy or shifting toward another remedial approach. Pump & Treat optimization should be systematic and data-based, and the training and document aim to provide tools and direction to assist in this rigorous process. For more information and to register, see <https://www.itrcweb.org> or <https://www.clu-in.org/live>.

Opportunities for Renewable Energy on Contaminated Sites under the Greenhouse Gas Reduction Fund - September 25, 2024, 1:00PM-2:30PM EDT (17:00-18:30 GMT). In this webinar, learn how some Greenhouse Gas Reduction Fund (GGRF) grantees could support financing for renewables on contaminated sites and how others may choose to consider clean energy redevelopment of these sites. The webinar is timely because EPA recently obligated funds to GGRF state, tribal, and multi-state nonprofit grantees, meaning that some GGRF grantees are now able to begin accessing their funds to implement their GGRF financing programs. Other GGRF grantees are starting a one-year planning period to engage with their communities and finalize financing program designs. The webinar will include an update on GGRF's three programs - the National Clean Investment Fund, the Clean Communities Investment Accelerator, and the Solar for All program - from EPA program leadership as well as a panel discussing creative renewable energy strategies for contaminated sites under GGRF. For more information and to register, see <https://www.clu-in.org/live>.

US EPA/ORD's Engineering Issue Paper: Electrokinetic (EK)-Enhanced In situ Remediation Technologies - Options for Addressing Contaminants in Low-Permeability (Low-k) Environments - September 26, 2024, 12:00PM-1:30PM EDT (16:00-17:30 GMT). US EPA's Office of Research and Development (ORD) is sponsoring a presentation on electrokinetic (EK)-enhanced in situ remediation technologies that are available for addressing contaminants in low-permeability (low-k) subsurface environments where conventional hydraulic delivery technologies often face challenges. The presentation introduces ORD's recently published Engineering Issue Paper (EIP) on the technology. The primary author will present on EK technologies and provide insights to the user community on ways to best utilize the EIP. For more information and to register, see <https://www.clu-in.org/live>.

> New Documents and Web Resources

Research Brief 356: Pyrite Improves Electrochemical System for Removing a Chemical Mixture. Adding a common mineral, pyrite, to an electrochemical system can simultaneously remove organic and heavy metal contaminants from groundwater, according to a study funded in part by the NIEHS Superfund Research Program (SRP).

Led by Akram Alshwabkeh, Ph.D., researchers at the Northeastern University SRP Center found that combining two types of remediation techniques - one that relies on applying an electrical current to destroy contaminants and one that uses minerals to adsorb contaminants - removed pollutants more effectively than either strategy alone. For more information, please visit https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=356

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

- Electrical Resistivity Tomography Monitoring of In Situ Soil Flushing at the Hanford 100-K East Area: 100KE Soil Flushing Monitoring
- EPA and U.S. Army Announce Joint Sampling Project to Identify PFAS Contamination Near Army Installations
- Results of 2018-19 Water-Quality and Hydraulic Characterization of Aquifer Intervals Using Packer Tests and Preliminary Geophysical-Log Correlations for Selected Boreholes at and Near the Former Naval Air Warfare Center Warminster, Bucks County, Pennsylvania

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 4 resources, events, projects and news items were added to EUGRIS in August. 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

RemTech Europe - Ferrara, Italy and online, September 16-20, 2024. The aim of the RemTech Europe International Conference and Exhibition on land and water remediation markets and technologies is to share information on knowledge, innovation and case histories, to encourage the development of remediation processes and the application of new and sustainable technologies and bring together experts, problem owners and suppliers of available services and technologies. This year's event will feature 45 sessions focused on the crucial topics of contaminated sites such as PFAS, 3D characterization and use of drones and artificial intelligence with presentations from USACE, ITRC, ASTM, AESAS, RNEST, CL:AIRE and ALGAs. The conference is fully in English with free registration available to attend sessions online. For more information and to register, please visit <https://remtechexpo.com/remtech-europe/> .

RemTEC & Emerging Contaminants Summit - Westminster, CO, October 15-17, 2024. This Summit convenes academic, consulting, regulatory, stakeholder, and other thought leaders to address today's most pressing environmental science, remediation technology, and emerging contaminants challenges through collaborative action. The Summit will showcase cutting edge research and practice case studies. This year's event will be co-chaired by Gregory Gervais, Director of EPA's Federal Facilities Restoration and Reuse Office. The technical program features other EPA speakers and session chairs including Jim Cummings (Technology Assessment Branch, OSRTI), Marc Mills (EPA Office of Research and Development), Mary Cooke (OLEM/FFRRO), and others. For more information, please visit <https://www.remediation-technology.com/>.

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 (202) 566-0832 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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