U.S. ENVIRONMENTAL PROTECTION AGENCY

TechDirect, May 1, 2025

Welcome to TechDirect! Since the April 1 message, TechDirect gained 117 new subscribers for a total of 44,435. 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.

Please feel free to reply to this email or share your comments online with feedback on your utilization of the TechDirect service or recommendations for future editions.

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: Overview of the Tire-Derived Chemicals 6PPD & 6PPD-quinone Training - Thursday, May 1, 2025, 1:00PM-2:30PM EDT (17:00-18:30 GMT). This course provides a basic overview of the science and policy measures surrounding the Tire Anti-Degradants 6PPD and 6PPD-q. Attendees will gain insight into the current state of knowledge on topics such as: background and use of 6PPD in tires, toxicity in aquatic species and humans; occurrence, fate, and transport; measuring, mapping, and sampling; mitigation measures; and policy, regulations, and laws. For more information and to register, see https://www.itrcweb.org or https://www.clu-in.org/live.

FRTR Spring 2025 General Meeting (Sessions 1 and 2) - Tuesday, May 13, 2025, 1:00PM-5:00PM EDT (17:00-21:00 GMT) and Wednesday, May 14, 2025, 1:00PM-5:00PM EDT (17:00-21:00 GMT). The Spring 2025 General Meeting of the FRTR focuses on innovative approaches to characterize and survey complex mixtures of legacy and emerging contaminants in surface and subsurface environmental media. These include characterization of PFAS mixed with legacy contaminants, and the survey of organo-metallic and radiological contaminants to advance industrial application, enhance efficiency and reduce cost of remediation. For more information and to register, see https://www.clu-in.org/live.

ITRC: Contaminants of Emerging Concern (CEC) Identification Framework Training - Thursday, May 15, 2025, 1:00PM-3:00PM EST (17:00-19:00 GMT). In 2023, the ITRC Contaminants of Emerging Concern (CEC) Framework was published to help environmental regulatory agencies and other stakeholders identify, evaluate, and manage CEC's while acknowledging uncertainties in their environmental fate and transport, receptor exposure, and/or toxicity. Such an approach can be conducive to improved allocation of regulatory response resources and provide a foundation for

communicating potential risk to stakeholders. The training presents this entirely new framework for identification, prioritization, and communication of CEC. Participants will learn the elements of the CEC framework and gain an understanding of the framework application from case studies. For more information and to register, see https://www.itrcweb.org or https://www.clu-in.org/live.

ITRC: PFAS Beyond the Basics: Topics on PFAS Biosolids: Sources, Transport, and Management of PFAS Surface Releases Training - Tuesday, May 20, 2025, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This training class builds on the earlier information for introductory PFAS topics presented in the PFAS 101 CLU-IN training. The ITRC PFAS Beyond the Basics class provides more information related to potential sources of PFAS in biosolids, implications of PFAS associated with land-applied biosolids, vadose zone fate and transport processes that likely govern biosolids releases, treatment/disposal options for PFAS-impacted biosolids, and regulatory considerations. For more information and to register, see https://www.itrcweb.org or https://www.clu-in.org/live.

ITRC: Reuse of Solid Mining Waste Training - Thursday, May 29, 2025, 1:00PM-3:00PM EST (17:00-19:00 GMT). Solid mining waste represents a significant quantity of waste material in the United States and around the world. Solid mining waste has a range of physical and chemical properties that make it both potentially valuable and potentially hazardous to human health and the environment. From a commercial perspective, mining removes most of the primary minerals of interest; however, waste materials can still contain valuable minerals and other materials that can be recovered. The ITRC Reuse of Solid Mining Waste training and guidance document is geared towards state regulators and environmental consultants, mining and manufacturing stakeholders, community and tribal stakeholders, and other who have an interest in the potential reuse of solid mining waste. For more information and to register, see https://www.itrcweb.org or https://www.clu-in.org/live.

ITRC: PFAS Beyond the Basics: PFAS Treatment Technologies Training - Tuesday, June 3, 2025, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This training class builds on the earlier information for treatment technologies presented in the PFAS 101 CLU-IN training. It provides more in-depth information regarding considerations for implementing integrated PFAS treatment technologies and remediation strategies. This training introduces the concept that achieving site remedial objectives will likely necessitate the implementation of multiple treatment technologies and remediation strategies (i.e., an integrated remedial strategy). Specifically, this training uses a hypothetical conceptual site model to frame the discussion of remedial approaches for PFAS impacted source area soil, source area groundwater, and more dilute groundwater plumes. The training concludes with a discussion of select field implemented and developing disposal and destructive technologies for managing treatment residuals. For more information and to register, see https://www.itrcweb.org or https://www.clu-in.org/live.

RemPlex: Subsurface Sensing: Advancing Electrical Geophysical Techniques for Non-Invasive Characterization and Monitoring at Complex Sites - Tuesday June 3, 2025, 11:00AM-12:30PM EDT (15:00-17:30 GMT). Explore the application of geophysical techniques for understanding, characterizing and monitoring complex remediation sites, with a special focus on the Spectral Induced Polarization (SIP) method. SIP is an exciting emerging geophysical technology that can offer unique non-invasive information on both the physical and geochemical conditions of the subsurface-particularly in environments where contamination and heterogeneous geological conditions pose significant challenges to collecting data at relevant spatial and temporal scales. The seminar will highlight recent advancements in both lab-scale analysis of SIP signals and their field-scale applications. Presented by the Center for the Remediation of Complex Sites (RemPlex). For more information and to register,

see https://www.pnnl.gov/remplex-seminars.

> New Documents and Web Resources

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:

- Interim Measures Plumestop® Injection Pilot Study Completion Report Base Support Building Solid Waste Management Unit 014 Kennedy Space Center, Florida
- Soil Gas Survey Results Supporting Groundwater Correction Action Plan (GCAP) Development for the Moab Site
- Geophysical Identification of Potential Groundwater - Surface Water Interactions in the Bonita Peak Mining District, San Juan County, Colorado

NAVFAC Fact Sheet on Thermal Desorption of Per- and Polyfluoroalkyl Substances (PFAS) from Soil (March 2025). As evidence mounts that PFAS in source area soil can contribute to large, persistent groundwater plumes, treatment technologies to minimize the mass of PFAS in soil are needed. The results from two demonstration studies are included, detailing successful PFAS soil remediation using both ex situ and in situ thermal treatment as conducted under the Department of Defense (DoD) Environmental Security Technology Certification Program (ESTCP). View the fact sheet at https://www.clu-in.org/NAVFAC-Thermal-Desorption.

DoD Environmental Data Quality Workgroup (EDQW) Memorandum on Issues with Applying the Incremental Sampling Methodology (ISM) to PFAS Investigations (January 2025). ISM is a sampling protocol that involves collecting and combining a large number of soil sample increments of equal depth and mass across an area defined as a decision unit (DU). The ISM protocol is designed so a single composite sample result represents the mean concentration of a chemical constituent in the DU. After further review and consideration, the DoD EDQW has recommended to avoid the use of ISM for PFAS sampling and analysis. To learn more and view the memorandum, visit https://www.clu-in.org/EDQW-Memo.

Superfund Remedy Report, 18th Edition (January 2025). EPA prepares the Superfund Remedy Report to provide information and analyses on remedies EPA selected to address contamination at Superfund National Priorities List and Superfund Alternative Approach sites. This report is the latest in a series, prepared since 1991, on Superfund remedy selection. The latest edition focuses on the analysis of Superfund remedial actions selected in fiscal years 2021, 2022, and 2023. To view the report, visit https://semspub.epa.gov/src/document/HQ/100003662.

Sustainable and Risk Based Land Management Website. The SRBLM site focuses on sustainable and risk-based land management and offers information on best practices, regulatory considerations, and innovative solutions for addressing contamination challenges. The site features a remediation option screening tool, to compare 24 categories of remediation technologies. To learn more and view these resources, visit https://contaminatedland.info/.

> Conferences and Symposia

EMRTAI Quarterly Stakeholder Meeting, May 20, 2025, Internet Seminar. The Environmental Monitoring and Remediation Technology Assessment Initiative (EMRTAI) Stakeholder Group meets quarterly and is always open to membership and participation by interested stakeholders in all aspects of mining and legacy mine site remediation. The next EMRTAI Quarterly Stakeholder Meeting will take place on Tuesday, May 20, 2025. Please register and join the meeting to hear an update on the progress of the Group 1 technology assessments and contribute to planning for future assessments. For more information, please visit https://www.clu-in.org/EMRTAI-Quarterly-Meeting

AquaConSoil 2025, June 16-20, 2025, Liege, Belgium. AquaConSoil 2025 offers a series of technical sessions, with each full conference day beginning with a plenary session featuring expert keynotes and panel discussions tailored to scientific and engineering professionals. Beyond these sessions, participants can enjoy field-specific excursions, advanced courses, and an exhibition with around 30 industry-focused exhibitors. For more information, please visit https://aquaconsoil.com/aquaconsoil2025/

2025 Environmental Measurement Symposium, August 4-8, 2025, St Louis, MO. Organized by The NELAC Institute (TNI), the 2025 Environmental Measurement Symposium is a combined meeting of the National Environmental Monitoring Conference (NEMC) and the Forum on Environmental Accreditation. It is the largest conference focused on environmental measurements in North America, and this year is planned as an in-person event for the week of August 4, 2025 in St. Louis, MO. This year's Symposium theme is Building a Quality Culture as the Foundation for Reliable Data. For more information, please visit https://www.envirosymposium.group/.

2025 National Brownfields Training Conference, August 5-8, 2025, Chicago, IL. The National Brownfields Training Conference is the largest event in the nation focused on environmental revitalization and economic redevelopment. Held every two years, the National Brownfields Conference attracts over 2,000 stakeholders in brownfields redevelopment and cleanup to share knowledge about sustainable reuse and celebrate the EPA brownfields program's success. For more information, please visit https://gobrownfields.org/.

Call for Abstracts for 2025 Tribal Lands and Environment Forum, August 18-21, 2025, Minneapolis, MN and Online. The Tribal Lands and Environment Forum (TLEF) is a joint effort between the Institute for Tribal Environmental Professionals (ITEP), the Tribal Waste and Response Steering Committee (TWAR SC), and US EPA's Office of Land and Emergency Management (OLEM). Topics for presentations should be related to TLEF's primary media: brownfields, underground storage tanks, Superfund sites and federal facilities, waste management and minimization, and emergency response. TLEF will also welcome proposals dealing with emerging contaminants, emerging technologies, habitat restoration, and indigenous justice in waste and response work. Deadline for submissions is Friday, May 16, 2025. For more information, please visit https://sites.google.com/view/tlef2025/home

RemTech Europe 2025, September 15-19, 2025, Ferrara, Italy. RemTech Europe is an international conference on land and water remediation, environmental sustainability, and emerging technologies. The event will take place from September 15 to 19, 2025, with both in person and online participation options. For more information, please visit https://remtechexpo.com/remtech-europe/

Call for Abstracts opens April 7, 2025 for Global Summit on Environmental Remediation, November 4-6, 2025, Richland, WA. The Call for Abstracts is open for this conference organized by the Center for the Remediation of Complex Sites (RemPlex) in cooperation with the International Atomic Energy Agency's ENVIRONET. The Global Summit will be held in person at Pacific Northwest National Laboratory in Richland, WA, with a virtual option. Remediation topics include resilience planning, characterization and monitoring, artificial intelligence, sustainability and circularity, data management, autonomous measurements, achieving end states, and more. Abstracts for presentations and posters are due June 6, 2025. For more information, please visit https://www.pnnl.gov/projects/remplex/2025-summit

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.

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