



TechDirect, June 1, 2023

Welcome to TechDirect! Since the May 1 message, TechDirect gained 68 new subscribers for a total of 40,635. 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 Vapor Intrusion Mitigation (VIM-1) - A Two Part Series, June 1 and 6, 2023.

When certain contaminants or hazardous substances are released into the soil or groundwater, they may volatilize into soil gas. Vapor intrusion (VI) occurs when these vapors migrate up into overlying buildings and contaminate indoor air. ITRC has previously released guidance documents focused on VI, including the "Vapor Intrusion Pathway: A Practical Guidance" (VI-1, 2007) and "Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management" (PVI, 2014). However, ITRC has received multiple requests for additional details and training on mitigation strategies for addressing this exposure pathway. 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. The Vapor Intrusion Mitigation training is a series of eight (8) modules, presented over two sessions. For more information and to register, see <https://www.itrcweb.org> OR <https://clu-in.org/live>.

ITRC 1,4-Dioxane: Science, Characterization & Analysis, and Remediation June 8, 2023, 1:00PM-3:15PM EDT (17:00-19:15 GMT).

1,4-Dioxane has seen widespread use as a solvent stabilizer since the 1950s. The widespread 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. The ITRC team created multiple tools and documents

that provide information to assist all interested stakeholders in understanding this contaminate and for making informed, educated decisions. 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://clu-in.org/live>.

ITRC Microplastics - June 13, 2023, 1:00PM-3:15PM EDT (17:00-19:15 GMT). In response to one of the biggest emerging environmental concerns, ITRC formed the Microplastics Team in 2021 to develop the Microplastics Guidance Document. Plastics have become pervasive in modern life and are now used in a wide range of commercial and industrial applications. Microplastics may result from the degradation and fragmentation of larger plastics, or they may be intentionally produced for specific applications and products. Regardless of their origin, microplastics are now ubiquitous in our environment. Because of their small size and pervasiveness in the environment, microplastics, along with any other contaminants which are adhered to the microplastics, may be inadvertently consumed by humans and other organisms. For more information and to register, see <https://www.itrcweb.org> or <https://www.clu-in.org/live>.

USACE The Best of the SAGEEP/MRM: Lessons Learned, Case Studies, and Emerging Technologies in support of MMRP, June 28, 2023, 1:00PM-4:00PM EDT (17:00-20:00 GMT). The M2S2 webinars have proven to be valuable forums to share information across our munitions response industry, on a wide range of topics and presented by a variety of subject matter experts representing multiple perspectives. In April 2023, the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), in conjunction with the National Association of Contractors and the 2nd Munitions Response Meeting, held 3 days of technical talks focused on lessons learned, case studies, and emerging technologies in support of MMRP. The talks that best fit a wider audience of project managers and stakeholders were selected to be presented during this M2S2 webinar. Talks will focus on Advanced Geophysical Classification (AGC), underwater research and development, alternative positioning systems, recent lessons learned, and novel applications of technology. For more information and to register, see <https://clu-in.org/live>.

> New Documents and Web Resources

Climate Adaptation Profile: Rocky Mountain Arsenal. EPA recently released a climate adaptation profile describing measures taken at the Rocky Mountain Arsenal in Commerce City, Colorado. Ongoing remediation work at this National Priorities List site includes maintaining two landfill caps and six evapotranspiration covers and operating five groundwater extraction and treatment systems. The site is vulnerable to drought conditions, erosion and sheet flow associated with intense or prolonged precipitation, and potential wildfires. Design and construction of the cover and capping systems included multiple measures to address the vulnerabilities, such as arming associated drainage channels with concrete block, using drought-tolerant species to vegetate top surfaces, and periodically conducting prescribed burns of the vegetation to reduce fuel for wildfires. Other measures to enhance climate resilience of the site's infrastructure include storing site-wide stormwater in three onsite lakes and beneficially using the site's treated groundwater to recharge the local aquifer. Approximately 15,000 of the site's 17,000 acres have been incorporated into the Rocky Mountain Arsenal National Wildlife Refuge. To view or download, please visit <https://www.epa.gov/superfund/climate-adaptation-profile-rocky-mountain-arsenal>.

Research Brief 341: Fighting Fluorine with Fluorine: New Materials Remove PFAS

from Groundwater. Researchers funded by the NIEHS Superfund Research Program (SRP) created a novel class of materials that can attract and remove per- and polyfluoroalkyl substances (PFAS) from water. According to the authors, the new technology - called Fluor Mop - can be regenerated, reused, and is potentially less expensive than current remediation strategies. For more information and to read the brief, please visit https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=341

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:

- Innovative Technology Supports Remediation Success at Lake City Army Ammunition Plant
- Field-Scale Investigation of Per- and Polyfluoroalkyl Substances (PFAS) Leaching from Shallow Soils to Groundwater at Two Sites in New Hampshire, 2021-2022

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 5 resources, events, projects and news items were added to EUGRIS in May 2023. 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

EPA to Offer Training on Radiation Risk Assessment National Harbor, July 22, 2023. EPA will provide training at the 2023 Annual Meeting of the Health Physics Society (HPS) on Radiation Risk Assessment. The all day course includes lectures and demonstrations of using EPA's risk and dose assessment calculators developed by the Superfund remedial program. The target audience for this course is RPMs, OSCs, risk assessors and others that want to obtain a working knowledge on conducting Superfund radiation risk assessments. For more information and to register, please visit <https://www.aahp-abhp.org/civicrm/event/info?reset=1&id=15>.

2023 National Brownfields Training Conference - Detroit, MI, August 8-11, 2023. The National Brownfields Training Conference is the largest event in the nation focused on environmental revitalization and economic redevelopment. Usually 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. Whether you're a newcomer or a seasoned professional, Brownfields 2023 offers something for you! For more information and to register, please visit <https://brownfields2023.org/>.

Save the Date! DOD Environmental Sustainability and Energy Resilience Symposium, November 28-December 1, 2023, Arlington, VA. The Department of Defense's Environmental Sustainability and Energy Resilience Symposium is the nation's largest conference focusing on the DoD's priority environmental and energy issues. The Symposium brings together researchers, technology developers, defense end-users, and regulatory communities to showcase cutting edge environmental and energy technologies and ideas. This event is hosted by the environmental research and energy innovation programs under the Office of the Deputy Assistant Secretary of

Defense for Environment & Energy Resilience (DASD E&ER). The Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP) fund research and demonstration projects, harnessing the latest science and technology to improve DoD's environmental performance, reduce costs, and enhance and sustain mission capabilities. The Operational Energy Capability Improvement Fund (OECIF) and Operational Energy Prototyping Fund (OEPF) programs develop and prototype technologies that provide tactical overmatch for our warfighters and allies.

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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