



TechDirect, March 1, 2021

Welcome to TechDirect! Since the February 1 message, TechDirect gained 63 new subscribers for a total of 39,825. 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.

> Funding Announcement

Open Broad Agency Announcement. On February 8, 2021 SERDP and ESTCP released a solicitation for both small and large businesses. This announcement is to declare DoD SERDP's and ESTCP's intent to competitively fund research and development for environmental research that addresses the topic areas set forth in the Announcements. For more information and submission instructions, please visit <https://www.serdp-estcp.org/Funding-Opportunities/Open-BAA>.

> Upcoming Live Internet Seminars

ITRC Incremental Sampling Methodology (ISM-2) Update Training Modules, Session 2 - Mar 11, 2021, 1:00PM-3:15PM EDT (18:00-20:15 GMT). The newly updated Incremental Sampling Methodology (ISM) training is a series of six modules providing an overview of ISM and presenting five sections from the ITRC guidance document (ISM-2, 2020). After this series, you should understand: Incremental Sampling Methodology (ISM) is a statistically supported technique for assessing the unbiased mean contaminant concentration in soil, sediment, and other solid media which can afford an economy of effort and resources; how the ISM structured composite sampling and processing protocol reduces data variability and provides for representative samples of specific soil volumes by collecting numerous increments of soil (typically, 30 to 100 increments) that are combined, processed, and subsampled according to specific protocols; the key principles regarding heterogeneous soil sampling errors and how ISM reduces those errors to have more confidence in sampling results; and how to use the new ITRC Incremental Sampling Methodology

(ISM-2) guidance document to learn the principles and approaches of the methodology to improve representative, reproducible, and defensible data to improve decision-making at your sites. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

Superfund Redevelopment Program Webinar Series - Opportunity Zones and Superfund Sites - March 12, 2021, 1:00PM-3:00PM EST (18:00-20:00 GMT).

Qualified Opportunity Zones are census tracts of low-income and distressed communities designated by state governors and certified by the Department of Treasury. Opportunity Zone tax benefits can attract private investment into economically distressed communities to create businesses and jobs. Nearly 35 million Americans live in communities designated as Opportunity Zones and there are over 300 Superfund National Priorities List sites and thousands of Superfund removal sites located in or partially in Opportunity Zones. Redevelopment of current or former Superfund sites may qualify for Opportunity Zone tax benefits. This webinar will discuss Opportunity Zone tax benefits in the context of redeveloping Superfund sites and other types of contaminated properties and how communities, local governments and developers can utilize these benefits. For more information and to register, please visit <https://clu-in.org/live>.

AquaConSoil 3rd Keynote Presentation Sustainable Remediation Technologies -

March 16, 2021, 9:00AM-10:00AM EDT (14:00-16:00 GMT). This year's 3rd keynote will be presented by Carlos Pachon from the US Environmental Protection Agency. He will give a keynote on sustainable remediation technologies in the context of societal objectives. This session is hosted by Prof. Dr. Huub Rijnaarts (Wageningen University & Chairman of AquaConSoil). For more information and to register, see <https://register.gotowebinar.com/register/3562145405990096141>

Mining Webinar Series: Evaluation of Rotating Cylinder Treatment System™ at Elizabeth Mine, Vermont, March 16, 2021, 1:00PM-2:00PM EDT (17:00-18:00 GMT).

This webinar will present a case study of the rotating cylinder treatment system™ (RCTS™) operated at the Elizabeth Mine in Strafford, Vermont. The webinar will discuss the capabilities and limitations of active lime treatment of water using the RCTS™ technology. For more information and to register, please visit <https://clu-in.org/live>.

An Environmental Cold Case Detective Story: Discovery and Repair of the Soil Cover on the Cell 3 Landfill, March 17, 2021, 1:00PM-3:00PM EDT (17:00-19:00 GMT).

The Society of American Military Engineers (SAME) Denver Post and Philadelphia Post along with the US Environmental Protection Agency (EPA) are hosting a series of webinars based on talks given at recent Design and Construction Issues at Hazardous Waste Sites (DCHWS) Symposiums. This presentation will review work conducted at Landfill Cell 3 on Closed Sanitary Landfill (CSL) at Fort Meade. During activities to remove some waste soil piles in 2013, test pits uncovered general wastes under a plastic liner and it was realized that Cell 3 was a waste site in the past that, based on old figures and aerial photographs, extended for over 38 acres. A remedial investigation was conducted that summarized the landfill history, delineated the boundary of the cell, and assessed environmental impacts from the cell. For more information and to register, please visit <https://clu-in.org/live>.

ITRC Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management, March 23, 2021, 1:00PM-3:15PM EDT (17:00-19:15 GMT).

Chemical contaminants in soil and groundwater can volatilize into soil gas and migrate through unsaturated soils of the vadose zone. Vapor intrusion (VI) occurs when these vapors migrate upward into overlying buildings through cracks and gaps in the building floors, foundations, and utility conduits, and contaminate indoor air. If present at sufficiently high concentrations, these vapors may present a threat to the health and safety of building occupants. Petroleum vapor intrusion (PVI) is a subset of VI and is the process

by which volatile petroleum hydrocarbons (PHCs) released as vapors from light nonaqueous phase liquids (LNAPL), petroleum-contaminated soils, or petroleum-contaminated groundwater migrate through the vadose zone and into overlying buildings. The ITRC Technical and Regulatory Guidance Web-Based Document, Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management (PVI-1, 2014) and this associated Internet-based training provides regulators and practitioners with consensus information based on empirical data and recent research to support PVI decision making under different regulatory frameworks. The PVI assessment strategy described in this guidance document enables confident decision making that protects human health for various types of petroleum sites and multiple PHC compounds. This guidance provides a comprehensive methodology for screening, investigating, and managing potential PVI sites and is intended to promote the efficient use of resources and increase confidence in decision making when evaluating the potential for vapor intrusion at petroleum-contaminated sites. By using the ITRC guidance document, the vapor intrusion pathway can be eliminated from further investigation at many sites where soil or groundwater is contaminated with petroleum hydrocarbons or where LNAPL is present. 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 March 25, 2021, 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>.

2021 Design and Construction at Hazardous Waste Sites Virtual Symposium, March 29, 31 and April 1, 2021, 1:00PM-5:00PM EDT (17:00-21:00 GMT). Given the COVID-19 national health emergency and its affects on corporate/government travel policies as well as local/state health requirements, it has become necessary to hold the conference as a remote webinar based event. With the DCHWS Philadelphia Conference being canceled earlier this year, our fall conference will be co-sponsored by the SAME Philadelphia Post, the SAME Denver Metro Post, and the U.S. Environmental Protection Agency. For more information and to register, please visit <https://clu-in.org/live>.

ITRC Long-term Contaminant Management Using Institutional Controls, March 30, 2021, 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>.

> New Documents and Web Resources

New ITRC 1,4 Dioxane Guidance Website Now Available. 1,4-Dioxane has been used as a solvent stabilizer since the 1950s. The widespread use of solvents through the 1980s suggests its presence at thousands of solvent sites. However, it has not always been a standard compound in typical analytical suites, so it has been often overlooked in the past. This ITRC guidance document provides information about the science to understand 1,4-dioxane contamination and how to address it at your sites. Visit the ITRC Website to learn more at <https://14d-1.itrcweb.org/>.

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:

- High-Performance Treatment of PFAS from Investigation-Derived Waste: Integrating Advanced Oxidation-Reduction and Membrane Concentration
- CO₂ Radiocarbon Analysis to Quantify Organic Contaminant Degradation, MNA, and Engineered Remediation Approaches
- Guidance for Monitoring Passive Groundwater Remedies Over Extended Time Scales
- Brownfields and Land Revitalization Program Impacts
- Technical Resources for Vapor Intrusion Mitigation
- System Assessment and Validation for Emergency Responders (SAVER): Document Library
- Field Portable Gas Chromatograph Mass Spectrometers Assessment Report
- Handheld Explosives Trace Detectors Assessment Report

EPA Office of Research and Development Journal Article: Spreadsheet Tools for Quantifying Seepage Flux Across the GW-SW Interface. Identifying the spatial distribution and magnitude of seepage flux across the groundwater-surface water (GW-SW) interface is critical for assessing potential impairments and restoration alternatives for water bodies adjacent to sites with groundwater contamination.

Open-access spreadsheet-based calculation tools are provided to make use of sediment temperature for estimating the magnitude and direction of seepage flux between groundwater and surface water. The performance of the different models coded in these tools is illustrated for a study site influenced by varying weather conditions. View at https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NRMRL&dirEntryId=350683.

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than six resources, events, projects and news items were added to EUGRIS in February 2021. 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

Springing Ahead - ITRC Virtual Spring Meeting, April 13-22, 2021. This year's Annual Spring Meeting will be a virtual gathering of ITRC members and non-members alike; a FREE opportunity to learn more about ITRC and the technical teams. Special items to look for in the ITRC Spring Plenary Session (April 13, 2021) include a panel of Environmental Justice experts and a virtual ceremony for the presentation of our Lifetime Achievement and Impact Awards, as well as an optional overview of our 2021 project teams. The rest of the Spring Meeting will include technical team meetings and events for their respective program areas. For more information and to register, please visit <https://itrc.wildapricot.org/event-4179659>.

13th Symposium on Design and Construction Issues at Hazardous Waste Sites - March 29-31, 2021. This year, the conference will be held virtually with daily technical presentations from 1:00 PM to 5:00 PM EDT. The applications of engineering and science associated with cleaning up hazardous waste sites continue to evolve rapidly. Our goal is to facilitate an interactive engagement between professionals from government and the private sector related to relevant and topical issues affecting our field. We will make every effort to mirror all aspects of past symposiums in terms of format and spirit. For more information and to register, see <https://www.eventbrite.com/e/design-and-construction-issues-at-hazardous-waste-sites-dchws-2020-registration-60190087171>.

Call for Ideas: 2021 National Brownfields Training Conference, Oklahoma City, OK, September 27-30, 2021. The National Brownfields Training Conference is the largest event in the nation focused on land revitalization and economic development. The 2021 National Brownfields Conference will feature over 100 educational sessions, trainings, and site tours. You are invited to submit ideas for panels, roundtables, and topic talks that will motivate brownfields stakeholders to engage, learn, and share their experiences and knowledge of community revitalization challenges and solutions. For more information and submission instructions, see <https://brownfields2021.org/sessions/call-for-ideas/>.

NIEHS Virtual Technology Fair for Small Business Grantees: Remediation and Detection Technologies. Presentations from the National Institute of Environmental Health Sciences (NIEHS) Virtual Technology Fair for Small Business Grantees are now available on YouTube. The event, hosted by the Superfund Research Program, featured innovative environmental remediation and monitoring tools developed by NIEHS-funded small business grantees. Each 8-10 minute video provides an overview of a remediation or detection tool and how it can be used for specific contaminants. For more details about each technology and grantee contact information, please visit https://www.niehs.nih.gov/news/events/pastmtg/2020/tech-fair/meeting_book_508.pdf. To access the presentations on YouTube, please visit <https://www.youtube.com/playlist?list=PLIo0xQLFI54Fuz7TK-QTU0CTE48O1o5mT>

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

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