Welcome to TechDirect! Since the July 1 message, TechDirect gained 268 new subscribers for a total of 36,472. 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

**Military Munitions Support Services - Remedial Investigation / Feasibility Study - August 4, 2016, 1:00PM-4:00PM EDT (17:00-20:00 GMT).** This will be a Military Munitions Support Services seminar with subject matter experts discussing Remedial Investigation / Feasibility Study development. Topics include Historic Photographic Analysis, Forgotten Geophysical Techniques, Understanding Statistics and the RI/FS, Assessing Background Concentrations, Merging UFP-QAPP and GCMR QAPPs at the RI Stage to Create a Workable Document, and Baseline Risk Assessing. For more information and to register, see [http://clu-in.org/live](http://clu-in.org/live).

**ITRC Geophysical Classification for Munitions Response - August 9, 2016, 1:00PM-3:15PM EDT (17:00-19:15 GMT).** This training class and supporting guidance document explain the process of geophysical classification, describe its benefits and limitations, and discuss the information and data needed by regulators to monitor and evaluate the use of the technology. This document and training also emphasize using a systematic planning process to develop data acquisition and decision strategies at the outset of a munitions response effort, as well as quality considerations throughout the project. Stakeholder issues that are unique to munitions response are also discussed. After this training class, participants will: understand the technology and terminology, be ready to engage in the planning process to address quality considerations throughout a project, find tools to transfer knowledge within organizations and to stakeholders, and start to transition mindset to decisions that leave non-hazardous items in the ground. An audience who understand current munitions response tools and procedures (for example, geophysical surveys, sensors, data analysis) will benefit most from this document and training. For more information and to register, see [http://www.itrcweb.org](http://www.itrcweb.org) OR [https://clu-in.org/live](https://clu-in.org/live).

**ITRC Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and...**
Management - August 30, 2016, 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 http://www.itrcweb.org or http://clu-in.org/live.

Protecting Pollinators through Sustainable Superfund Reuse - September 8, 2016, 2:00PM-3:30PM EDT (18:00-19:30 GMT). In recent years, declines in pollinator populations and honey bees in particular, have raised concerns about the impacts to agricultural supply and ecosystem sustainability. EPA has engaged in a federal partnership with the United States Department of Agriculture to minimize impacts of pesticides on pollinator populations. But EPA has also engaged with organizations such as the Pollinator Partnership to support the development and maintenance of pollinator habitat. This webinar will highlight the opportunities presented to support pollinators through sustainable and conscientious reuse of Superfund sites and other blighted properties. Speakers will share case study examples of pollinator habitat on contaminated sites, as well as some available resources to aid in supporting pollinators at a site near you. For more information and to register, see http://www.itrcweb.org or http://clu-in.org/live.

New Documents and Web Resources

Superfund Research Program Research Brief 259: Phytostabilization of Mine Tailings with Compost-Assisted Direct Planting. Amending mine waste with compost is a viable and promising alternative to the expensive process of covering an entire site with a thick soil or rock cap followed by seeding, according to research from the University of Arizona Superfund Research Program (UA SRP) Center. A recent field study at the Iron King Mine and Humboldt Smelter Superfund site showed that adding amendments and seeds led to establishment of native plants and sustained growth on mine tailings over 4 years. The trial was based on successful results from preliminary greenhouse studies, which scaled effectively to the field. For more information, see https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=259. To get monthly updates on research advances from the SRP you can subscribe to their Research Briefs.
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:

- Green-Duwamish River Watershed: PCB Congener Study, Phase 1
- Extent and Persistence of Secondary Water Quality Impacts after Enhanced Reductive Bioremediation
- A Quantitative Decision Framework for Assessing Navy Vapor Intrusion Sites
- Impacts on Groundwater Quality Following the Application of ISCO: Understanding the Cause of and Designing Mitigation for Metals Mobilization [accompanied by the ISCO Metals Byproduct Reference Guide and Interactive Database]
- The Clean Water Act and Sediment Remediation: Using the Data Quality Objectives Process to Help Assure That Remediated Sediment Sites Are Not Re-Contaminated
- Superfund State Contracts -- A Reference for States and Territories: How to Get the Most Out of Your Superfund State Contract
- Abstract Book: SETAC Europe 25th Annual Meeting, 3-7 May 2015, Barcelona, Spain

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 13 resources, events, projects and news items were added to EUGRIS in July. 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

Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management - ITRC 2-day Classroom Training, Somerset, NJ, September 26-27, 2016 AND Framingham, MA, November 9-10, 2016. Preapproved for continuing education for CT LEPs, MA LSPs, NJ LSRPs, and SC PGs. This 2-day ITRC classroom training is based on the ITRC Technical and Regulatory Guidance Web-Based Document, Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management (PVI-1, 2014) and led by internationally recognized experts. Within the training class - hear about EPA's Technical Guide For Addressing Petroleum Vapor Intrusion At Leaking Underground Storage Tank Sites (June 2015). The ITRC guidance document and EPA guide are complementary documents with the ITRC training course providing the "how-to" knowledge and skills for screening, investigating, and managing the petroleum vapor intrusion pathway. The class will enable you to develop the skills to screen-out petroleum sites based on the scientifically-supported ITRC strategy and checklist; focus the limited resources investigating those PVI sites that truly represent an unacceptable risk; and communicate ITRC PVI strategy and justify science-based decisions to management, clients, and the public. Interactive learning with classroom exercises and Q&A sessions will reinforce these course learning objectives. For local, state, and federal government; students; community stakeholders; and tribal representatives, ITRC has a limited number of scholarships (waiver of registration fee only) available. For more information and to register, see http://www.itrcweb.org/training.
Facility Decommissioning Training Course, Virginia Beach, VA, October 4-6 and Las Vegas, NV, November 14-17, 2016. The purpose of this course is to provide information on the basic steps in the decommissioning process and impart lessons learned from past experiences in decommissioning. In this manner, elements learned at this training course will assist in decision-making, planning, and implementation associated with the decommissioning of various types of nuclear facilities. Moreover, a major objective of this training course is to demonstrate the need for early and complete project planning to achieve safe and cost-effective decommissioning of research reactors and other small nuclear installations. For more information and to register, see http://www.dd.anl.gov/ddtraining/.

2016 National Training Conference on the Toxics Release Inventory (TRI) and Environmental Conditions in Communities, Washington, DC, October 19-21, 2016. The theme of this year's conference is TRI at 30: Working Together To Reduce Toxic Releases. This year marks the 30th anniversary of the Emergency Planning and Community Right-to-Know Act (EPCRA), which supports and promotes emergency planning and provides the public with information about releases of toxic chemicals in their community through the Toxics Release Inventory (TRI). Join us for dynamic discussions, valuable networking opportunities, and the chance to help shape the next 30 years of community right-to-know. This conference is the TRI Program's main public outreach and training event, bringing together EPA, localities, states, tribes, federal agencies, companies, community groups, researchers, and non-governmental organizations. For the conference agenda and registration, see https://www.epa.gov/toxics-release-inventory-tri-program/2016-tri-national-training-conference.

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 Jeff Heimerman at (703) 603-7191 or heimerman.jeff@epa.gov. Remember, you may subscribe, unsubscribe or change your subscription address at https://clu-in.org/techdirect at any time night or day.