TechDirect, July 1, 2015

Welcome to TechDirect! Since the June 1 message, TechDirect gained 233 new subscribers for a total of 34,946. If you feel the service is valuable, please share TechDirect with your colleagues. Anyone interested in subscribing may do so on CLU-IN at http://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

Progress in Research: Reducing Exposure to Mercury, Arsenic, and Asbestos - July 9, 2015, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This Superfund Research Program (SRP) Progress in Research webinar highlights exciting research from two SRP Centers. Scientists at the Dartmouth College SRP Center are working to reduce exposures to arsenic and mercury and to better understand how exposure to these contaminants leads to disease. You will also hear from scientists at the University of Pennsylvania SRP Center who are conducting research on asbestos waste, and how that waste affects health. For more information and to register, see http://clu-in.org/live.

ITRC Integrated DNAPL Site Strategy - July 16, 2015, 1:00PM-3:15PM EDT (17:00-19:15 GMT). The ITRC Integrated Dense Nonaqueous Phase Liquid Site Strategy (IDSS-1, 2011) technical and regulatory guidance document will assist site managers in development of an integrated site remedial strategy. This course highlights five important features of an IDSS including: a conceptual site model (CSM) that is based on reliable characterization and an understanding of the subsurface conditions that control contaminant transport, reactivity, and distribution; remedial objectives and performance metrics that are clear, concise, and measurable; treatment technologies applied to optimize performance and take advantage of potential synergistic effects; monitoring based on interim and final cleanup objectives, the selected treatment technology and approach, and remedial performance goals; and reevaluating the strategy repeatedly and even modifying the approach when objectives are not being met or when alternative methods offer similar or better outcomes at lower cost. For more information and to register, see http://www.itrcweb.org or http://clu-in.org/live.

ITRC Remedy Selection for Contaminated Sediments - July 21, 2015, 1:00PM-3:15PM EDT (17:00-19:15 GMT). ITRC developed the technical and regulatory guidance, Remedy Selection for Contaminated Sediments (CS-2, 2014), to assist decision-makers in identifying which contaminated sediment management technology is most favorable based on an evaluation of site specific physical, sediment, contaminant, and land and waterway use characteristics. The document provides a remedial selection framework to help identify favorable technologies, and identifies additional factors (feasibility, cost, stakeholder concerns, and others) that need to be considered as part of the remedy selection process. This ITRC training course supports participants with applying the technical and regulatory guidance as a tool to

overcome the remedial challenges posed by contaminated sediment sites. Participants learn how to: identify site-specific characteristics and data needed for site decision making, evaluate potential technologies based on site information, and select the most favorable contaminant management technology for their site. For more information and to register, see http://www.itrcweb.org or http://clu-in.org/live.

ITRC Integrated DNAPL Site Characterization - July 23, 2015, 1:00PM-3:15PM EDT (17:00-19:15 GMT). The Integrated DNAPL Site Characterization Team has synthesized the knowledge about dense nonaqueous phase liquid (DNAPL) site characterization and remediation acquired over the past several decades, and has integrated that information into a new document, Integrated DNAPL Site Characterization and Tools Selection (ISC-1, 2015). This guidance is a resource to inform regulators, responsible parties, other problem holders, consultants, community stakeholders, and other interested parties of the critical concepts related to characterization approaches and tools for collecting subsurface data at DNAPL sites. After this associated training, participants will be able to use the guidance to develop and support an integrated approach to DNAPL site characterization, including: identify what site conditions must be considered when developing an informative DNAPL conceptual site model (CSM); define an objectives-based DNAPL characterization strategy; understand what tools and resources are available to improve the identification, collection, and evaluation of appropriate site characterization data; and navigate the DNAPL characterization tools table and select appropriate technologies to fill site-specific data gaps. For more information and to register, see http://www.itrcweb.org or http://clu-in.org/live.

SRI Webinar Series: Green Infrastructure: Reusing Superfund Sites and Promoting Sustainable Communities - July 28, 2015, 2:00PM-4:00PM EDT (18:00-20:00 GMT). This webinar will introduce green infrastructure elements in the context of reusing and revitalizing Superfund sites. Presenters will share site-specific reuse projects with green infrastructure elements such as habitat conservation, stormwater management, and recreational opportunities that increase quality of life for communities near the contaminated land. The webinar will also share green infrastructure considerations and opportunities for future projects looking to sustainably return contaminated lands to productive and beneficial use for communities. For more information and to register, see http://clu-in.org/live.

Analytical Chemistry Data Review - High Resolution GC/MS Data - July 29, 2015, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This webinar will provide a review and validation of dioxin/furan and CB-Congener data. In this webinar, the instructor will discuss the data quality requirements of Methods 1613, 8290, and 1668, along with the 2011 National Functional Guidelines for Chlorinated Dioxin/Furan Data Review. Data packages and supplemental course materials will be shared with registrants shortly before the live event which should be reviewed prior to attending this webinar. For more information and to register, see http://clu-in.org/live.

SERDP and ESTCP Webinar Series. The series continues during the Summer with monthly webinars providing cutting-edge and practical information from sponsored research and technology demonstrations in an easily accessible format for target audiences including end users such as practitioners, the regulatory community and researchers. Webinar topics include characterization and remediation in fractured rock environments, removal of environmentally-hazardous perchlorate oxidizers from pyrotechnic flares and reformulation of visible signal flares, and resource conservation and climate change. For or more information and to register, see http://www.serdp-estcp.org/Tools-and-Training/Webinar-Series .

> New Documents and Web Resources

Technology News and Trends (EPA 542-N-14-005). This issue highlights innovative approaches for remediating sites that are contaminated due to the presence of mining-influenced water or solid waste associated with the mining of hard rock, coal or uranium. Mining operations, both past and ongoing, can create a host of contamination issues, including the release of contaminants of concern such as arsenic, cadmium, copper, lead and zinc, into soil and groundwater. Much of the contamination is associated with acid rock drainage generated when surface water or groundwater comes into contact with acid-generating mine wastes or with bedrock exposed by mining processes. The projects featured in this issue illustrate the collaboration between federal partners, such as the U.S. Bureau of Land Management, EPA and Forest Service, and state agencies, tribes and other stakeholders, to find solutions for mining sites and identify cost-effective and low-maintenance treatment systems for mine site cleanups (Spring 2015). View at http://clu-in.org/tnandt/0515.

Enhanced Reductive Dechlorination (ERD) Design Considerations. This document provides a framework for ERD design submittals, including a summary of best practices for bioremediation design, sustainable design considerations, tips for appropriate quality assurance and quality control (QA/QC) measures, and a listing of useful standards and references. Lessons learned from Navy sites are shared related to the design, implementation, and performance of ERD systems (March 2015, 49 pages). View or download at http://clu-in.org/EXWC-EV-1501.

In Situ Chemical Oxidation Design Considerations. This document provides a framework for in situ chemical oxidation (ISCO) design submittals. Best practices for ISCO design are outlined including sustainable design and operational approaches, appropriate QA/QC measures, and useful standards and references. Lessons learned and performance issues at ISCO sites are also addressed (March 2015, 42 pages). View or download at http://clu-in.org/EXWC-EV-1502.

EPA Issues Vapor Intrusion Technical Guides. The U.S. EPA has issued two technical guides to support vapor intrusion assessment and mitigation activities. The *Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air* applies to all sites being evaluated under federal land cleanup statutes by EPA, other federal agencies, state and tribal governments and brownfield grantees. A companion document, the *Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites* addresses any sites where vapor intrusion related to petroleum contamination from underground storage tanks is a potential concern. Both guides are applicable to residential and non-residential settings. View or download at www.epa.gov/oswer/vaporintrusion/guidance.html.

2015 Revised Underground Storage Tank Regulations. In June 2015, EPA issued the 2015 underground storage tank regulation and the 2015 state program approval regulation. The revisions strengthen the 1988 federal underground storage tank (UST) regulations by increasing emphasis on properly operating and maintaining UST equipment. The revisions will help prevent and detect UST releases, which are a leading source of groundwater contamination. The revisions will also help ensure all USTs in the United States, including those in Indian country, meet the same minimum standards. This is the first major revision to the federal UST regulations since 1988. View or download at http://www.epa.gov/oust/fedlaws/revregs.html.

Research Brief 246: River Algae Affects Mercury Pollution at Superfund Site. A new study has shown that periphyton - a community of algae, bacteria, and other

natural material living on submerged surfaces - is helping to transform mercury from a Superfund site into methylmercury, a more toxic form. The study, led by Dartmouth College Superfund Research Program (SRP) researchers, also found lower than anticipated levels of methylmercury in small fish located downstream from a former chemical plant, despite elevated levels of methylmercury in sediment, water, and periphyton. For more information, see http://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=246. To get monthly updates on research advances from the SRP you can subscribe to their Research Brief mailing list at https://list.nih.gov/cgi-bin/wa.exe?SUBED1=SRP-BRIEF&A=1.

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

- Bibliography for Acid-Rock Drainage and Selected Acid-Mine Drainage Issues Related to Acid-Rock Drainage from Transportation Activities
- Lessons Learned from Environmental Remediation Programmes
- Technical Guidelines on Performing a Sediment Erosion and Deposition Assessment (SEDA) at Superfund Sites
- Integrated DNAPL Site Characterization and Tools Selection
- Best Practice Guidance for Practical Application of Gentle Remediation Options (GRO)
- Enhanced Reductive Dechlorination (ERD) Design Considerations
- In Situ Chemical Oxidation Design Considerations

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 6 resources, events, projects and news items were added to EUGRIS in June 2015. 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. If you have information to share with the EUGRIS community, please consider posting via the EUGRIS website at http://eugris.info/toolbox.asp .

> Conferences and Symposia

2015 Environmental Measurement Symposium - Big Data: Environmental Measurement and Monitoring Data in the 21st Century, Chicago, IL, July 12-17, 2015. The 2015 Environmental Measurement Symposium, which is the combined meeting of the Forum on Laboratory Accreditation and the National Environmental Monitoring Conference (NEMC), is co-sponsored by The NELAC Institute (TNI) under a cooperative agreement with the U.S. EPA. Some of the highlights for the week include: a special half-day general session focused on the conference theme; over 160 oral and poster presentations on a variety of cutting-edge environmental monitoring issues; meetings of TNI Committees to further TNI efforts on environmental laboratory accreditation, proficiency testing, and accreditation of field sampling and measurement organizations; an exhibit program showcasing the latest innovations in environmental monitoring; five special keynote presentations on topics of general interest; and an open meeting of U.S. EPA's Environmental Laboratory Advisory Board. For more information and to register, see http://www.envmeasym.org.

2015 Community Involvement Training Conference, Atlanta, GA, August 4-6, 2015. This dynamic conference brings together more than 450 people from EPA and the Agency's partners and stakeholders who plan and implement environmental community involvement, partnership, stewardship, outreach, and education programs.

This three-day conference features plenary sessions with guest speakers, topical discussions, multiple 90-minute information sessions, and dozens of engaging and interactive 3-, 4-, and 7-hour training sessions. The conference also includes field trips demonstrating the power of effective community involvement and cooperative conservation efforts in the Atlanta area, an eco caf&#65533;, exhibits, and networking opportunities. Registration is free and closes July 22! For more information and to register, see http://epa.gov/superfund/community/ciconference/.

Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management - ITRC 2-day Classroom Training, Raleigh (area), NC, August 31 - September 1, 2015. 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. The class will enable you to develop on-the-job 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; communicate ITRC PVI strategy and justify science-based decisions to management, clients, and the public; understand the essential principles of biodegradation and the fundamentals of vapor movement through the vadose zone; and appreciate the important role of modeling in the investigation of petroleum sites. Interactive learning with classroom exercises and Q&A sessions will reinforce these course learning objectives. You will also have the opportunity to network with other environmental professionals. 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.

2015 National Brownfields Training Conference, Chicago, IL, September 2-4, 2015. Brownfields 2015 promises something for all levels of stakeholders and practitioners. The conference program includes speakers, discussions, mobile workshops, films, and other learning formats that are calibrated to provide you with case study examples, program updates, and useful strategies for meeting your brownfield challenges head on. For more information and to register, see http://www.brownfieldsconference.org/en/registerinfo.

LNAPLs: Science, Management, and Technology - ITRC 2-day Classroom Training, Seattle (area), WA, September 15-16, 2015; Austin, TX, November 18-19, 2015. Led by internationally recognized experts, this 2-day ITRC classroom training will enable you to develop and apply an LNAPL Conceptual Site Model (LCSM), understand and assess LNAPL subsurface behavior, develop and justify LNAPL remedial objectives including maximum extent practicable considerations, select appropriate LNAPL remedial technologies and measure progress, and use ITRC's science-based LNAPL guidance to efficiently move sites to closure. 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.

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 http://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 http://clu-in.org/techdirect at any time night or day.

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