

Message #43: September 2000

Since August 1, TechDirect gained 230 new subscribers for a total of 8981. Welcome to everyone just joining the TechDirect community. It is a long one this month, but there a number of interesting items including Internet seminars, on-line decision tools and an international contractor opportunity in Nova Scotia.

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.

Documents

Engineered Approaches to In Situ Bioremediation of Chlorinated Solvents: Fundamentals and Field Applications (EPA 542-R-00-008) This document, produced by the U.S. EPA Technology Innovation Office, provides an overview of in situ bioremediation to remediate chlorinated solvents in contaminated soil and groundwater. It describes degradation mechanisms for chlorinated solvents, enhancements of these mechanisms by the addition of various materials and chemicals, design approaches, and factors to consider when selecting and using the technology. The study also includes nine case studies of field applications and a summary of treatment vendors. View or download at <http://clu-in.org/techpubs.htm> . For hard copies, contact (800) 490-9198 or (513) 489-8190 or fax to (513) 489-8695.

A Resource for Manufactured Gas Plant (MGP) Site Characterization and Remediation (EPA 542-R-00-005). This report was prepared by EPA's Technology Innovation Office (TIO) in collaboration with EPA Regional offices, state agencies, electric and gas utilities, and their trade associations. Estimates of the number of MGP's range from the thousands to the tens of thousands. The purpose of this report is to capture a cross-section of the innovative approaches which are being employed (August 2000, 215 pages). View or download at <http://clu-in.org/techpubs.htm> . For hard copies, contact (800) 490-9198 or (513) 489-8190 or fax to (513) 489-8695.

Proceedings of the Ground-Water/Surface-Water Interactions Workshop (EPA 542-R-00-007). To address the technical concerns related to ecological impacts in the ground-water/surface-water transition zone, EPA's Office of Solid Waste and Emergency Response (OSWER) sponsored a workshop in January 1999 to

provide an opportunity for individuals from various scientific and technical backgrounds to discuss the importance of the ground-water/surface-water transition zone and help regulators better understand environmental issues relating to the connections between ground water and surface water. The workshop and these proceedings provide a first step to understanding the fundamentals of evaluating the effects of contaminated ground water discharging through the transition zone (July 2000). View or download Part I Proceedings (71 pages), Part II Poster Session Abstracts (88 pages) or Part III Appendices (45 pages) at <http://clu-in.org/techpubs.htm> . For hard copies, contact (800) 490-9198 or (513) 489-8190 or fax to (513) 489-8695.

Innovations In Site Characterization: Geophysical Investigation at Hazardous Waste Sites (EPA 542-R-00-003). The case studies in this compendium describe a number of geophysical technologies and methods that were used to characterize 11 sites with significantly different geological settings and types of subsurface contamination. The geological settings ranged from relatively homogeneous stratigraphy to the highly heterogeneous mix of sand and clay layers. The types of contamination that were being characterized fell primarily into three broad groups: chlorinated solvents, petroleum-related compounds, and polyaromatic hydrocarbons (August 2000, 186 pages). View or download at <http://clu-in.org/techpubs.htm> . For hard copies, contact (800) 490-9198 or (513) 489-8190 or fax to (513) 489-8695.

Cost and Performance Report: Expedited Characterization and Soil Remediation At the Test Plot Area Wenatchee Tree Fruit Research Center Wenatchee, Washington. This report was published by the U.S. Army Corps of Engineers. The project demonstrated how time and cost savings could be achieved by use of dynamic decision-making tools during field activities. Field analyses using Immunoassay Analysis (IAA) kits were performed to determine the required extent of excavation. Use of IAA kits helped personnel in the field to make rapid decisions regarding additional excavation. Because of the speed with which results were received, it was not necessary to demobilize personnel and equipment while waiting for analytical results (May 2000, 33 pages). View or download at <http://clu-in.org/techpubs.htm> Or <http://www.ftr.gov/cost/pdf/Wenatchee.pdf> (Case sensitive).

The OnSite On-line Tools for Site Assessment. OnSite was developed by the U.S. EPA Ecosystems Research Division of the Office of Research and Development. It was developed to provide continuous access to site assessment calculations for petroleum

sites via the Internet. OnSite provides both data and pre-packaged calculations methods. It is meant as an aid to site assessment, to help regulators review modeling reports and to enhance contaminant transport knowledge. See <http://www.epa.gov/athens/software/training/WebCourse/part-two/onsite> .

A User's Guide to Environmental Immunochemical Analysis.

This document is a tutorial designed to instruct the reader in the use and application of immunochemical methods of analysis for environmental contaminants. A brief introduction describes basic principles and the advantages and disadvantages of the technology, and gives a listing of references which supply more detail.

Preparation of the laboratory for use of this technology and the general scientific considerations prior to using the technology are discussed. Detailed step-wise procedures are given for analysis of selected analytes, triazine herbicides, carbaryl, paraquat, and p-nitrophenols in environmental samples as well as triazine mercapturates in urine samples. In addition to the specific immunoassay methods, a series of support techniques necessary to perform immunochemical methods are described. These support techniques include pipetting, sample preparations, testing for matrix effects, optimizing reagent concentrations, data analysis, recordkeeping, and equipment maintenance. A general troubleshooting guide is provided to aid both the novice and experienced analyst (June 2000). View at

<http://www.epa.gov/headsweb/edrb/chemistry/immochem/user-guide.htm> .

ETV Verification Reports for Environmental Decision Support Software.

The EPA Environmental Technology Verification (ETV) program published 6 verification reports for environmental decision support. Each was assessed for its ability to evaluate one or more of the following endpoints of environmental remediation problems: visualization, sample optimization, and cost-benefit analysis. The capabilities of the DSS were evaluated in the following areas: (1) the effectiveness of integrating data and models to produce information that supports the decision, and (2) the information and approach used to support the analysis. Secondary evaluation objectives were to examine the DSS for its reliability, resource requirements, range of applicability, and ease of operation. The verification study focused on the developers' analysis of multiple test problems with different levels of complexity. Each developer analyzed a minimum of three test problems. These test problems, generated mostly from actual environmental data from six real remediation sites, were identified as Sites A, B, D, N, S, and T. The six reports are:

C Tech Development Corporation - Environmental Visualization System Pro (March 2000, 87 pages) http://www.epa.gov/etv/02/evs_vr.pdf

Decision FX - SamplingFX (March 2000, 78 pages)

http://www.epa.gov/etv/02/samplingfx_vr.pdf

Decision FX - GroundwaterFX (February 2000, 68 pages)

http://www.epa.gov/etv/02/groundwaterfx_vr.pdf

Environmental Software - SitePro Version 3.0 (October 1999, 58 pages)

<http://www.epa.gov/etv/02/siteprovr.pdf>

Environmental Systems Research Institute - ArcView GIS Version 3.1 (October 1999, 72 pages)

<http://www.epa.gov/etv/02/esrivr.pdf>

University of Tennessee Research Corporation - Spatial Analysis and Decision Assistance (SADA) (February 2000, 74 pages)

http://www.epa.gov/etv/02/sada_vr.pdf

Special Notice

International Site Remediation Opportunity. The Nova Scotia Department of Transportation and Public Works is seeking Expressions of Interest (EOI) for commercially applied and proven available remediation technologies to be demonstrated on Sydney Tar Ponds sediment in Sydney, Nova Scotia, Canada. The sediment is contaminated with PAHs, PCBs, other organics, heavy metals, coke and coal fines and untreated sewage from coking operations, coal gas production, other historical industrial uses, and raw industrial and residential sewage discharge. U.S. companies interested in demonstrating their technology(s) on this site must submit the EOI in order to be considered for the subsequent Request For Proposal expected to be issued prior to year end. The overall mandate of the Technology Demonstration Project (TDP) is to identify, demonstrate and recommend technologies that are capable of removing, transporting and remediating/treating the contaminated sediment in a safe, cost effective manner. The field demonstrations will be limited to full scale technologies with a proven track record of treating similar contaminants in sediment or soil. Containment technologies such as landfilling of untreated sediments, slurry walls and capping will not be considered in this TDP. The deadline for EOI submissions is September 27, 2000 at 2:00pm (1400 hours) local time at the Public Tenders Office, 6176 Young Street Halifax, Nova Scotia, Canada. Complete documents for this solicitation can be found at <http://www.gov.ns.ca/finance/tour> .

Internet Seminars

New Seminar on Enhanced In Situ Bioremediation. This seminar is sponsored by the Interstate Technology Regulatory Cooperation (ITRC) workgroup. This training is designed to introduce cleanup professionals to a document titled, Technical & Regulatory Guidance

for Enhanced In Situ Bioremediation of Chlorinated Solvents in Ground Water". The training focuses on a variety of amendments, which may be added to in situ bioremediation systems, the mechanism of delivery and regulatory issues associated with approving or permitting EISB systems. You will also here discussions of common problems encountered during operation of a system. The same seminar will be delivered September 6, September 7, October 24 and 25. More information and registration at <http://clu-in.org/conf/itrc> .

Reminder! Permeable Reactive Barrier seminar is being offered September 26, October 11, and November 2. The training focuses on the basic information one needs to determine and document the conditions necessary to effectively apply a permeable reactive barrier to a contaminated zone to be an effective part of remediating chlorinated solvents, radionuclides and other inorganic compounds in ground water. It provides a framework, that is, how to think about permeable reactive barriers based on science. More information and registration at <http://clu-in.org/conf/itrc> .

Conferences and Symposia

U.S. EPA National Environmental Monitoring Technology Conference, September 19-20, Boston, MA. This symposium promises to be the nation's most comprehensive conference in 2000 on environmental monitoring and related technologies, programs, and applications. It will include an opening plenary session, dynamic and informative panel sessions, a poster presentation, and an exhibitor hall with more than 150 companies and organizations! For more information, please visit <http://www.epa.gov/region01/ra/empact/conference/index.html>.

Reminder! Brownfields 2000, October 11-13, Atlantic City, NJ. The U.S. EPA, with the New Jersey Department of Environmental Protection and the New York Department of Environmental Conservation, sponsors this conference. During Brownfields 2000, we will tap into national and international research efforts and successful regional strategies to give the conference attendees both a greater knowledge and a greater capacity to return home and help revitalize their respective communities. Complete conference and registration information are available at <http://www.brownfields2000.org/> .

Reminder! ITRC 2000 Fall Conference: New Environmental Technologies and Market Opportunities, October 16-20, San Antonio, TX. The 2000 ITRC Fall Conference will include an audience of state environmental officials; federal representatives from EPA, DoD, and DOE; and industry and citizen stakeholders.

The conference will provide an opportunity for the exchange of information on new technologies, planning, and management. At the conclusion of the conference the ITRC will announce those areas in which work teams will be formed for 2001. For more information, see

<http://www.itrcweb.org/>

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/techdrct> at any time night or day.