



Hazardous Substances
Technical Liaisons

OFFICE OF RESEARCH AND DEVELOPMENT HAZARDOUS SUBSTANCES TECHNICAL LIAISON REGION 9 NEWSLETTER

Winter 2007, Edition 38

Happy New Year 2007!

The beginning of the year not only means a new Congress (with a San Francisco woman in charge of the House, I might add!), but it's also time for the latest EPA Region 9 HSTL Newsletter. I think I know which is more important, but I'm only here to give you the latest Newsletter. If you are new to my list, welcome. If not, you hopefully will still find this compilation of waste cleanup related information useful! In this issue, I'll cover the latest from the ETV program, guidance on the cleanup of mine waste, a section about the ORD drinking water test and evaluation (T&E) facility, and a summary of the recent Groundwater Resources Association of California's conference on high resolution site characterization and monitoring, which was held in Long Beach and attended by many EPA tech support folks. Also, don't miss the latest new documents and upcoming conferences.

Once again, please remember that ORD provides a great tech support service to EPA Superfund/RCRA staff. The Tech Support Centers can assist you with many issues, including site characterization and monitoring, engineering and treatment, aerial photos, and subsurface characterization. Just contact me and I'll get you moving towards site cleanup!

Mike Gill
EPA Region 9
ORD Hazardous Substances Technical Liaison
415-972-3054

Winter 2007 Edition of the Region 9 HSTL Newsletter:

National News

- New Tools and Technologies
 - Remote Abandoned Mines: Some Cleanup Approaches
 - EPA's Test and Evaluation Facility, Cincinnati, OH
 - From Treatment Plant to Tap: The Safe Delivery of Drinking Water
 - ETV Publishes Technology Briefs
 - ETV Verifications

Local News

- High Resolution Site Characterization and Monitoring Symposium
- Free Soil Vapor Extraction System Hardware

Datebook - Upcoming Events

Web Pages

- Contaminant Data Dictionary
- Pharmwaste Listserv
- EUGRIS Corner
- New In-Situ Flushing Profiles
- API Launches New Soil and Groundwater Website
- CLU-IN Field Analytic Technologies Area

Recent Documents, Databases, etc.

Serious Scientists Gather 'Round...

NATIONAL NEWS

[New Tools and Technologies](#)

Remote Abandoned Mines: Some Cleanup Approaches (From NRMRL Monthly, Dec 11, 2006)

The boom-and-bust history of early western mining towns is well preserved in American folklore and song. Unfortunately, that colorful legacy has a darker side that can be seen today in hundreds of abandoned non-coal mines whose metal-laden wastewaters contaminate the delicate ecosystems of the west and pollute thousands of downstream creeks and rivers.

According to the EPA scientists and engineers who have joined in a multi-agency effort to remediate mine waste damage, more than 600,000 U.S. mines have polluted an estimated 180,000 acres of lakes and 12,000 miles of streams. To help meet this environmental challenge, EPA land remediation researchers are testing a variety of risk evaluation and cleanup technologies, some of them through the Engineering Technical Support Center (ETSC) in Cincinnati. A major ETSC challenge is how to treat millions of gallons of acid mine runoff without ready sources of power, in remote locations that are accessible only a few months of each year. Furthermore, in an era of shrinking funding, the treatment technologies must be cost effective with low operating and maintenance costs, and be sustainable. One ETSC approach is

through the development of new microbial technologies using polymerase chain reaction and DNA/RNA research.

Partnering with other federal agencies such as the U.S. Forest Service, the Bureau of Land Management, the mining industry, and the university community, ETSC researchers are testing low-cost and innovative biochemical reactors that combine bacterial reactions with chemical processes (e.g., lime dissolution and chemical precipitate) to increase the pH of the acidic mine water. Sulfate-reducing bacteria precipitate metals from the water by their reduction of sulfate to sulfide. A by-product of this reaction is bicarbonate, which also increases the pH of acid mine drainage. Here are a few examples of site-specific treatment technologies.

- At the Peerless Jenny Mine in Montana, a four-year test of an innovative design combining a constructed wetland with a bioreactor has resulted in a completely passive (i.e., gravity-fed) system that requires minimal maintenance and no external energy source. No added chemicals are used in this method, which generates a 50-gallon-per-minute flow of clean water that meets ambient water quality standards for both EPA and the State of Montana.

- A full-scale rock substrate sulfate-reducing bioreactor system designed by the University of Nevada-Reno and ETSC researchers currently operates at the Leviathan Mine site in California. To maximize the benefits of treating toxic waters and metal precipitation in settling ponds, this bioreactor operates in a recycle mode rather than the passive gravity mode.

- At the Luttrell Repository, which is a 100,000-cubic-yard repository of mine wastes located within the Ten Mile Creek Superfund site in Montana, a leachate collection system sends mine waste runoff to a biochemical reactor for treatment. While the discharge waters from the sulfate-reducing bacteria bioreactor currently meet most clean water standards, research is continuing to develop a more efficient and sustainable bioreactor.

National Risk Management Research Laboratory (NRMRL) mine waste researchers have been testing remedial technologies for nearly 20 years in 10 states. Results are shared with the public at workshops and on the Web. Since 1998, a series of workshops and conferences have attracted more than 1,600 participants from local and federal government agencies, tribal organizations, universities, the mining industry, and other involved groups. Topics have included mining-impacted pit lakes, mercury and arsenic management in mining, mining-impacted Native American lands, and sustainable modern mining applications. Recognizing acid mine drainage from abandoned mines as a long-term environmental issue, industry professionals share the desire of EPA and other agencies to develop control techniques that meet the demands of individual sites.

To learn about other NRMRL mine waste programs, visit our Mine Waste Technology Web site (<http://www.epa.gov/ORD/NRMRL/std/mtb/mwt/index.html>). For further information on risk management approaches to abandoned mine sites and their potential revitalization and reuse, visit EPA's Abandoned Mine Lands Program (<http://www.epa.gov/superfund/programs/aml/>).

For further information, please contact Patricia Schultz, NRMRL Office of Public Affairs, 513-569-7966.

EPA's Test and Evaluation Facility, Cincinnati, OH
(From Chris Impellitteri, NRMRL, Cincinnati, OH)

Back in October, 2006, EPA's Chris Impellitteri sent out a note to educate folks about the EPA's Test & Evaluation (T&E) facility, which is located at the Cincinnati Municipal Sewer District. T&E is a laboratory geared for bench and pilot scale research and development on water treatment technologies, distribution systems, and water quality monitoring. They tend to focus on small drinking water systems; those serving 25 to hundreds.

They are currently involved with several projects with EPA regional offices including:

RARE- Region II - Water filtration technologies for high-turbidity surface water systems - San German, Puerto Rico (RARE funding finished, but project continues)

RARE-Region VI - UV/Ozone treatment for removal of MTBE in ground water supplies (ongoing)

RARE-Region III- Predicting Radon in Ground Water Sources (proposed)

Non-RARE projects include:

Mt. Rainier National Park, WA (Region X)-Bag filtration for supplying drinking water

Lake Kabetogama, MN (Region V) - Bag filtration, low-pressure UV studies

St. Louis, MO (Region VII) -Bag filtration

Potable Water Onboard Commercial Aircraft, Chicago, IL (Region V) - Mobile ozonation treatment unit

Chris also provided an outline that lists many water research related projects. There are also projects on phytoremediation (metal/arsenic removal via water hyacinth uptake) and pervaporation. If anyone is interested in further information on any of the subjects, please contact Chris at <impellitteri.christopher@epa.gov>

Current Research

Water Treatment

Point-of-use/Point-of-entry

"Kitchen Sink" Studies-Treatment at the tap

Reverse Osmosis

Modified GAC

Ion Exchange Resins

Ultraviolet Light

Low-Cost Variance Technology for arsenic treatment

Treatment units built entirely from parts acquired from local hardware store

Activated alumina media

Commercially available iron-oxide media

Filtration-Removal of bacterial and viral surrogates: Cryptosporidium-sized beads (3 micron), E. Coli, B. Subtilis, MS-2 Coliphage

- Bag/Cartridge filtration

- Micro, nano, ultra filtration

- Homeland security/emergency response

 - Multiple barriers for microbial pathogen and chemical removal

 - Physical filtration

 - Carbon filtration

 - UV

Advanced Oxidation Processes: Combinations of hydrogen peroxide, ozone, and UV

Disinfection: On-site chlorine generation systems

Small System Package Plants

- Automated treatment combined with remote monitoring

Distribution Systems

Organotins: Leaching from PVC pipes

Distribution System remote monitoring

Homeland Security

- Monitoring for introduced contaminants via water quality parameters

Source Water Protection

Watershed Remote Monitoring: Weather stations and continuous water quality monitoring stations

Watershed Biomonitors

- Daphnia toximeter

- Algae toximeter

- Clam biosensors

- Fish biosensors

Future Research

Electrofiltration

- Remove Cryptosporidium-sized particles

- Reduce coagulant usage and disposal cost

Nanotechnology

- Impact of nanoparticles (zero-valent iron, titanium dioxide, silica) on removal of organic pollutants by GAC adsorption

- Nanofiltration

Water reuse for small systems

Pulsed ultraviolet light

Pathogen inactivation
Destruction of organic chemicals

Improved ozone introduction systems

Disinfection by-product reduction in small systems

Characterization of radionuclide (Uranium, Radium) bearing waste residuals

Design and test small, mobile treatment systems for emergency response

From Treatment Plant to Tap: The Safe Delivery of Drinking Water
(From NRMRL Monthly, Nov 8, 2006)

The United States enjoys one of the world's highest standards of drinking water, but EPA water researchers are always alert to new risks of contamination, whether at the point of treatment or in the distribution systems that carry finished water to the consumer. One example is the ongoing NRMRL research into possible impacts on water distribution systems following changes in disinfection practices. About a third of major U.S. water companies are changing from traditional chlorine treatment to chloramine treatment to guard against harmful disinfection by-products (DBPs) resulting from the reaction of chlorine with organic matter in the water. Chloramine, a combination of chlorine and ammonia, is a weaker oxidizer than chlorine and thus, less likely to create harmful DBPs. While the change to chloramine enhances some aspects of water quality, it may also generate electrochemical reactions capable of dissolving lead from the mineral lining of water pipes.

When cities such as Washington, D.C. and Greenville, North Carolina, began experiencing unusually high levels of lead in drinking water after switching to chloramines, NRMRL water researchers responded with collaborative monitoring, corrosion control studies, and pipe-scale analyses that are leading to new findings about the transport of lead in water systems. This new EPA research has shown that lead coatings in pipes tend to be stable and insoluble in the presence of highly oxidizing (chlorine-treated) water. But with the shift to chloramines, the oxidizing power of the water is lowered, resulting in the potential dissolution of lead from the thin shell of mineral scales lining pipe walls. Although some outside studies have corroborated the NRMRL scale-dissolution findings, pipe-scale chemistry is complex and many other potential mechanisms exist for pipe-scale destabilization. Further corrosion studies are needed to aid in understanding the role of these mechanisms across the diverse array of water chemistries and treatment histories of U.S. water systems.

Currently, NRMRL researchers are collaborating with researchers in several cities who are doing anticipatory studies or monitoring before-and-after treatment changes. Work is also being done with the U.S. Geological Survey (for elemental analysis of the solids); Pegasus Environmental Services (for in-house lab assistance); and the U.S. Department of Energy (for use of the Advanced Photon Source at Argonne National Laboratory in determining the speciation of lead

solid phases). The results of these combined efforts will reinforce the EPA mission of ensuring safe drinking water--from the treatment source right to the consumer tap.



For further discussion of this research area, please go visit our Corrosion, Scaling, and Metal Mobility Research web site at <http://www.epa.gov/nrmrl/wswrd/cr/index.html>.

For further information, please contact Patricia Schultz, NRMRL Office of Public Affairs, 513-569-7966.

ETV Publishes Technology Briefs To Summarize Technology Performance And Verification Outcomes For Targeted Technology Categories And Topical Areas

(From ETV listserve of Jan 3, 2007)

The ETV Program is targeting technology categories and topical areas to create two-page summaries of technologies verified, or in- process of being verified, and their performances. If available, environmental, human health and regulatory, as well as other outcomes of technology verification are also discussed and are taken from the in-depth case studies published as ETV Program Case Studies: Demonstrating Program Outcomes, Volumes I and II (see <http://www.epa.gov/etv/>).

To date, ETV has published technology briefs for the following technology areas: fuel cells, microturbine/combined heat and power technologies, ETV for green buildings, ETV for energy, and baghouse filtration products. ETV is in-process of developing briefs for these additional areas: arsenic drinking water treatment, arsenic test kits, continuous emission monitors for mercury, dioxin emission monitoring, ambient ammonia monitors, stormwater, ETV for combined animal feeding operations, and residential nutrient reduction. All technology briefs will be posted to the ETV Web Site and will be used by ETV centers and the Program to conduct outreach of verification results to targeted audiences.

ETV Verifications



ETV has completed verification testing and reports for 380 innovative environmental technologies! For a full list of ETV verifications, visit:

<http://www.epa.gov/etv/verifications/verification-index.html>

--> Diesel Engine Retrofit Emissions Control Technologies: Retrofit technologies that control emissions of particulate matter, nitrogen oxides, hydrocarbons, or carbon monoxide from heavy duty diesel engines. Technologies include add on devices such as exhaust catalysts and particulate matter filters, engine modifications, selective catalytic reduction systems, fuel modifications and reformulations, alternative fuels, and lubricants used on mobile diesel engines and some categories of stationary engines. For more information, contact Drew Trenholm, RTI, at (919) 316-3742.

--> Fabric Filter Media: Filter media used in baghouses to control fine particulate matter. For more information, please contact Drew Trenholm, RTI, at (919) 316-3742.

--> Ventilation Air Cleaning or Filtration Technologies: Products for cleaning or filtering ventilation air. Verifications can include ASHRAE 52.2 type efficiency testing for particles from 0.3 to 10 microns, efficiency testing for particles from 0.03 to 10 microns, and efficiency testing for bioaerosols (fungi, bacteria, and virus). For more information, please contact Debbie Franke, RTI, at (919) 541-6826.

--> Enzymatic Test Kits Verified:

<http://www.epa.gov/etv/verifications/vcenter1-38.html>

--> Storm Water Source Area Treatment Device Verified:

<http://www.epa.gov/etv/verifications/vcenter9-9.html>

--> Immunoassay Test Kits For Biotoxins Verified:

<http://www.epa.gov/etv/verifications/vcenter1-31.html>

LOCAL NEWS

High Resolution Site Characterization and Monitoring Symposium

(With assistance from Richard Willey of Region 1, Boston)

*Groundwater Resources Association Presentation:
The 2nd Symposium in its Series on Tools and Technologies*

HIGH RESOLUTION SITE CHARACTERIZATION & MONITORING

**November 14-16, 2006
Westin Hotel, Long Beach, California**

This past November, EPA's Tech Support Project (consisting of the Ground Water [GW], Engineering and Federal Facilities Forums) met in Long Beach for their Fall meeting and made the most out of the time by also attending the above-named symposium. The symposium was sponsored by the Groundwater Resources Association of California, EPA, four private sector companies, several California State agencies, and the National Ground Water Association. Over 280 people attended the symposium. Members of the GW Forum worked with the symposium planners to ensure a useful meeting for the EPA tech support attendees. As well as attending as many sessions as possible, the 3 Forums conducted their business sessions. For a complete summary of these business sessions, please see the following website:
<http://www.epa.gov/tio/tsp/meetings.htm> .

Richard Willey, Region 1's representative to the GW Forum, compiled a useful summary of the symposium's proceedings. The symposium offered a good compilation of case studies, tools (drilling, geophysical logging, and sampling equipment for various media), and reasons why one should consider high resolution characterization at their site. It included 29 presentations, 12 posters, and an all-day outdoor session where vendors demonstrated the use their equipment at different "stations". Here is a link to a website (Shutterfly) with pictures from the outdoor field demo day at the Long Beach Airport.....
<http://share.shutterfly.com/action/welcome?sid=8AZNmzJi3aNmKj> . The pictures show the equipment, exhibits, and some (but not all...) of the participants in action.

Some items of note from the symposium include:

- A central theme of the symposium was bridging the gap between research advances and real world practices in characterizing and monitoring subsurface contamination.
- Fine grained geologic units (silt and/or clay, till) should not be assumed to be "aquitards" that inhibit or preclude the downward migration of contamination. Field tests, using

appropriate techniques, should be performed during site characterization or during remediation 5 year reviews (as needed) to objectively determine that contamination has not entered or is being transported through aquifer units that may underlie these units.

- "Direct push" technologies have revolutionized site characterization, and new instruments that piggyback on these technologies continue to be developed. The benefits continue to be improved cost effectiveness of site investigations and monitoring.
- The use of vertical profiling in transects normal to ground-water plume directions is viewed as the preferred method of determining contaminant distribution and transport pathways in unconsolidated aquifers. This applies to site characterization, and to monitoring remedial progress (MNA or engineered remedy). Data density and sufficiency depend on the question(s) that need to be answered.
- Contaminant migration in fractured rock should not be assumed to be limited to weathered bedrock, shallow bedrock, or by some arbitrary depth in competent bedrock. Appropriate field testing is needed to accurately characterize, remediate, and determine potential risk from contaminated ground water.
- Moderate levels of contamination in high permeability zones may pose a greater risk than high concentrations in low permeability zones. Thus, investigations may need to focus more on contaminant flux than solely on contaminant concentrations.
- Recent field data suggest that there may not be much seasonal variation in soil-gas concentrations. If this is borne out at other locations in a variety of climatic zones, there will be less of a need to collect seasonal concentration data to evaluate vapor intrusion potential.
- At the end, a panel was asked for their thoughts on impediments and solutions regarding the use of high resolution tools. Many pointed to risk aversion being one of the major impediments, both on the responsible party and regulator sides. Another impediment was lack of education - many folks continue to be unaware of these new tools - and perhaps fact sheets could be created to help get over this problem. Part of the risk aversion is fear of increased costs and liability. The fact is that the opposite has been true. Costs have been cheaper and there appear to be fewer remedy failures when using high resolution tools.

Proceedings from this symposium are presently being compiled. The Ground Water Forum is working with the NARPM planning committee to possibly present a subset of this symposium as a session at the May '07 NARPM meeting.

Free Soil Vapor Extraction System Hardware

(Message from Jamey Watt, Region 9 RPM)

There is a FREE SVE system available that was recently decommissioned at a site in Tempe, AZ. It would be great if someone else could use this equipment. It is in good condition and it operated effectively when in use. The only costs would be in the transportation to another site. Please contact Jamey Watt <watt.jamey@epa.gov> if you have additional questions and feel free to pass the word to others.

Here is a quick description: "The SVE system consists of a 500 SCFM blower and a fluidized media bed treatment system. The system utilizes a heating chamber and a two-stage chiller configuration to regenerate the absorbent media and condense concentrated VOC-laden vapors."

DATEBOOK - UPCOMING EVENTS

This section of the newsletter is an attempt to present both EPA and non-EPA sponsored environmental technology related courses and conferences. But being a quarterly publication, it is impossible for this newsletter to always be up-to-date. For the most pertinent information on upcoming EPA courses, see <http://www.trainex.org>. These events are listed chronologically.

Many of the entries in these newsletters are from TIO's "TechDirect" emails (thank you Jeff Heimerman!). TechDirect prefers to concentrate mainly on new documents and the internet live events. However, they do support an area on the CLU-IN webpage where announcement of conferences and courses can be regularly posted. Sponsors can input information on their events at <http://clu-in.org/courses>. Likewise, the page has an area for upcoming events that might be of interest. It allows users to search events by location, topic, time period, etc.

Many of you know that www.clu-in.org routinely place seminars in the CLU-IN Studio archive after they have aired. This provides access to the slides and the audio file for each presentation. Some of you requested that we make these audio files more portable. Now they have done that. For more recent seminars, you now have the option to download them in MP3 format which will allow you to listen via portable music players. You may also subscribe to their podcast feed, which will alert you when new seminar archives are available. For more information, see <http://clu-in.org/live/archive.cfm>.

CLU-IN Training Area. A training section has been posted to CLU-IN. The Training page offers visitors a quick glimpse of upcoming training opportunities in a monthly view as well as a running list of events. Links to upcoming Conference Webcasts, Trainex and Archived Internet Seminars and Podcasts are available on the Training Page. See: <http://www.cluin.org/training>.

ITRC Internet Based Training

These are typically 1-2 hour online courses where the participant follows a webpage presentation, while listening on the phone. Check - <http://www.itrcweb.org> or <http://www.cluin.org/studio/seminar.cfm> for times and registration.

NOTE: All dates/times are subject to change – check www.itrcweb.org for the most up-to-date information.

Jan. 25th - *Remediation Process Optimization Advanced Training*
11:00 a.m. to 1:15 p.m. EASTERN Time

Jan. 30th – *Site Investigation and Remediation for Munitions Response Projects*
2:00 p.m. to 4:15 p.m. EASTERN Time

Feb. 6th - *An Overview of Direct Push Well Technology for Long-term Groundwater Monitoring*
2:00 p.m. to 4:15 p.m. EASTERN Time

Feb. 8th - *Characterization, Design, Construction and Monitoring of Bioreactor Landfills*
11:00 a.m. to 1:15 p.m. EASTERN Time

Feb. 13th - *NIEHS Seminar Series - Metals Remediation using Nanotechnology*
Time TBA (This is the second in a series of monthly SBRP/EPA seminars on Nanotechnology - see <http://www.cluin.org/live> for information.)

Feb. 15th - *Evaluating, Optimizing, or Ending Post-Closure Care at Municipal Solid Waste Landfills*
11:00 a.m. to 1:15 p.m. EASTERN Time

Feb. 27th – *Planning and Promoting Ecological Land Reuse of Remediated Sites*
2:00 p.m. to 4:15 p.m. EASTERN Time

Mar. 15th - *NIEHS Seminar Series - DNAPLs Remediation using Nanotechnology*
Time TBA See <http://www.cluin.org/live> for information.)

4th International Conference on Remediation of Contaminated Sediments
January 22-25, 2007
Savannah, GA

<http://www.environmental-expert.com/events/conferencegroup-sediments/conferencegroup-sediments.htm>

Hazardous Materials Incident Response Operations
January 22-27, 2007
Cincinnati, OH
<http://trainex.org/offeringslist.cfm?courseid=23>

Alternative Covers for Landfills, Waste Repositories, and Mine Wastes: Design, Modeling,
Construction, and Monitoring
(final of 4 workshops)
January 23-25, 2007
Riverside, CA
<http://www.landfillcover.dri.edu>

EPA/USACE Superfund Site Remediation Conference
January 24-25, 2007
New Orleans, LA
Contact: Ken Skahn (703) 603-8801

UCSF - CHE SUMMIT ON ENVIRONMENTAL CHALLENGES TO REPRODUCTIVE
HEALTH AND FERTILITY
January 28-30, 2007
UCSF Mission Bay Conference Center, San Francisco, CA
<http://www.ucsf.edu/coe/prhesummit.html>

Removal Process for RPMs
January 30-31, 2007
Seattle, WA
<http://www.trainex.org/offeringslist.cfm?courseid=53>

Integrated Modeling for Integrated Environmental Decision Making Workshop
January 30-February 1, 2007
EPA, RTP, North Carolina
http://cfpub.epa.gov/crem/crem_integmodelwkshp.cfm

Removal Process for Remedial Project Managers
January 30-31, 2007
Seattle, WA (Region 10 office)
<http://www.trainex.org/offeringslist.cfm?courseid=53>

7th National Conference on Science, Policy and the Environment: Integrating Environment and Human Health

February 1-2, 2007

Washington, DC.

<http://www.ncseonline.org/2007conference/cms.cfm?id=1245>

Hazardous Materials Incident Response Operations

February 5-9, 2007

Edison, NJ

<http://trainex.org/offeringslist.cfm?courseid=23>

OSC Readiness Training Program

February 12-16, 2007

Miami, FL

<http://www.oscreadiness.org>

<http://www.trainex.org>

EPA Metals F&T Modeling Workshop

February 13-15, 2007

Denver, CO

For more info, contact <caruso.brian@epa.gov> or <dreeder@summitusa.net>

Uniform Federal Policy for Quality Assurance Project Plans

February 14-15, 2007

US EPA, San Francisco CA

<https://www.cecos.navy.mil/coursedetail.cfm?courseid=76>

Sampling for Hazardous Materials

February 20-22, 2007

Dublin, CA

<http://www.trainex.org/offeringslist.cfm?courseid=20>

8th EPA Superfund National Radiation Meeting

February 26 - March 2, 2007

San Francisco, CA

<http://www.trainex.org/classdetails.cfm?classid=2963&courseid=282>

Environmental Remediation Technologies
February 27 - March 1, 2007
Columbus, OH
<http://www.trainex.org/offeringslist.cfm?courseid=2>

Radiation Safety
Feb 27 - Mar 1, 2007
Cincinnati, OH
<http://trainex.org/offeringslist.cfm?courseid=182&all=yes>

SBRP Contaminated Sediments Remedies Workshop
February 28, 2007
Brown University, Providence, RI

GROUNDWATER LAW & POLICY CONFERENCE
March 2, 2007
San Francisco, CA
<http://www.grac.org/law.asp>

DTSC Nanotechnology Symposium
March 8, 2007
Cal/EPA Building, Sacramento, CA
<http://www.dtsc.ca.gov/TechnologyDevelopment/Nanotechnology.cfm>

SETAC / SRA Joint Conference
March 14-16, 2007
Argonne National Laboratory, IL (SW of Chicago)
https://home.comcast.net/~brody.tom/chisra/index_files/Page693.htm

Health & Safety 8 Hour Refresher
March 5-8
San Francisco, CA
To Register: Use the EPA Region 9 START database

Superfund Academy 101
(Includes Fundamentals and Enforcement)
March 5-9, 2007
San Francisco, CA
<http://www.trainex.org/offeringslist.cfm?courseid=254&all=yes>

CERCLA 101
March 13, 2007
Region 9, San Francisco
To Register: Use the EPA Region 9 START database

Introductory Risk Assessment Guidance for Superfund
March 13-15, 2007
Cincinnati, OH
<http://trainex.org/classdetails.cfm?courseid=24&classid=2859>

AEHS 17TH Annual West Coast Conference On Soils, Sediments, And Water
March 19-22, 2007
San Diego, CA
<http://www.aehs.com/conferences/westcoast/index.htm>

EPA Soil Gas Workshop (at the AEHS conference)
March 21-22, 2007
San Diego, CA
<http://www.aehs.com/conferences/westcoast/pdfs/PRELIMINARYPROGRAM07.pdf>

"Nanotechnology for Contaminated Site Remediation"
(At the 233rd American Chemical Society National Meeting)
March 25-29, 2007
Chicago, Illinois
<http://oasys.acs.org/>

Multi-Agency Radiological Laboratory Analytical Protocols (MARLAP): New Practical Training on MARLAP Part I

March 27-29, 2007

Seattle, WA

<http://www.trainex.org/offeringslist.cfm?courseid=487&all=yes>

Superfund Redevelopment Initiative

March 28-29, 2007

San Francisco, CA

To register: email bischoff.chereamie@epa.gov

Long Term Stewardship Roundtable and Training

April 2-5, 2007

San Diego, CA

Contact: Mike Bellot (703) 603-8905

Biochemical Remediation Technologies

April 3-5, 2007

Coeur d'Alene, Idaho

Contact Amy Turner at Amy_Turner@sra.com or 703-284-6108.

2007 Conference on Design and Construction Issues at Hazardous Waste Sites

April 4-5, 2007

Philadelphia, PA

<http://hq.environmental.usace.army.mil/rdra-07/>

Remedial Process

April 9-13, 2007

Seattle, WA

<http://www.trainex.org/offeringslist.cfm?courseid=52&all=yes>

Removal Process

April 9-13, 2007

Seattle, WA

<http://www.trainex.org/offeringslist.cfm?courseid=45&all=yes>

Remedial Design/Remedial Action (RD/RA)

April 17-19, 2007

Atlanta, GA

<http://www.trainex.org/offeringslist.cfm?courseid=47&all=yes>

2007 TOXICOLOGY AND RISK ASSESSMENT CONFERENCE

April 23-26, 2007

Cincinnati, Ohio

For further information, contact Pat Daunt at daunt.pat@epa.gov or Nagu Keshava at keshava.nagu@epa.gov

The 7th Passive Sampling Workshop and Symposium

April 24-26, 2007

Reston, Virginia

http://www.cerc.usgs.gov/Research/Passive_Conference/psws.htm

2007 Ground Water Summit

April 29-May 3, 2007

Albuquerque, New Mexico

<http://www.ngwa.org/e/conf/0704295095.cfm>

9th International InSite and On-Site Bioremediation Symposium

May 7-10, 2007

Baltimore, MD

<http://www.battelle.org/environment/er/conferences/biosymp/default.stm>

10th annual NSTI Nanotech 2007 and BioNano 2007

May 20-24, 2007

Santa Clara, California

<http://www.nsti.org/Nanotech2007>

The World Environmental and Water Resources Congress

May 15-19, 2007

Tampa, FL

<http://content.asce.org/conferences/ewri2007/index.html>

NARPM
May 21-25, 2007
Baltimore, MD (newly suggested location)
<http://www.epanarpm.org>

OSC 201
June 4-6, 2007
Las Vegas, NV
<http://www.trainex.org/offeringslist.cfm?courseid=285&all=yes>

EPA Site Assessment Conference
June 19-21, 2007
Denver, CO
<http://www.trainex.org/>

U.S. EPA Community Involvement Conference and Training
June 19-22, 2007
Jacksonville, FL
<http://www.epa.gov/superfund/action/community/ciconference/>

The American Water Works Association (AWWA) 2007 Annual Conference and Exposition
June 24-28, 2007
Toronto, Ontario
<http://www.awwa.org/ace07/>

The Air and Waste Management Association (A&WMA) 100th Annual Conference and
Exhibition
June 26-29, 2007
Pittsburgh, PA
<http://www.awma.org/ACE2007/>

EPA Risk Assessment Forum
July 9-13, 2007
New York City, NY (Region 2 office)
Contact: Jayne Michaud, (703) 603-8847

Pharmaceuticals and Personal Care Products: State of the Science
August 8 - 9, 2007
Portland, Maine
<http://www.neiwpcc.org/ppcpconference/index.asp>

23rd National Environmental Monitoring Conference
August 18-25, 2007
Contact: Shannon Sturgeon (703) 605-0509

Introduction to Ground Water Investigations
August 21-23, 2007
Cincinnati, OH
<http://trainex.org/classdetails.cfm?courseid=6&classid=2867>

Introductory Risk Assessment Guidance for Superfund
September 11-13, 2007
EPA Region 9 - Exact location to be determined
<http://trainex.org/classdetails.cfm?courseid=24&classid=2865>

Preliminary Assessment and Site Inspection Training
September 11-14, 2007
Los Angeles, CA
<http://www.trainex.org/offeringslist.cfm?courseid=457&all=yes>

Hazard Ranking System
September 18-21, 2007
Los Angeles, CA
<http://www.trainex.org/offeringslist.cfm?courseid=38&all=yes>

23rd Annual International Conference on Soils, Sediments and Water Analysis, Site Assessment,
Fate, Environmental and Human Risk Assessment, Remediation and Regulation

October 15-18, 2007

Amherst, MA

<http://www.umasssoils.com/>

SERDP/ESTCP SYMPOSIUM: Partners in Environmental Technology Technical Symposium
& Workshop
December 4-6, 2007
Washington, D.C.
<http://www.estcp.org>
<http://www.serdp.org/>

WEB PAGES

[Contaminant Data Dictionary](#)

EPA has developed an electronic data dictionary with information on a priority list of contaminants. This dictionary can help risk assessors and managers respond more rapidly and efficiently to environmental contamination incidents.

<http://www.epa.gov/nhsrc/news/news120606.html>

[Pharmwaste Listserv](#)

This listserv is sponsored by the Florida Department of Environmental Protection. Proper disposal of pharmaceutical waste is an emerging issue nationally as low-levels of various pharmaceutical compounds are found in waterways across the country. This listserv will help create a national dialogue to organize, discuss and track ideas, projects, grants, and other issues. Participants are primarily from various government agencies, but others are welcome to join. See:

<http://lists.dep.state.fl.us/cgi-bin/mailman/listinfo/pharmwaste> .

[EUGRIS Corner](#)

EUGRIS is the platform for European contaminated soil and water information. See the following link to access the following documents and resources:

<http://www.eugris.info/Whatsnew.asp>. New entries include:

- Risk Based Management of Contamination and Protection of the Soil System in Urban Environments (2005).
- GeoPASS: Use the Optimal Geophysical Technique for Your Subsurface Investigations.
- NICOLE News: October 2006.
- Rapid Sample Preparation and Bioanalytical Techniques for Efficient Screening of Organic Pollutants in the Environment (2006).

- Characterization of PAH-Contaminated Soils Focusing on Availability, Chemical Composition and Biological Effects (2006).
 - PROMOTE: Efficiency Control and Performance Verification of Improved Approaches for Soil-Groundwater Protection and Rehabilitation.
 - TESTNET: Towards European Sectorial Testing Networks for Environmental Technologies.
 - RISKBASE: Risk-Based Management of the Water-Sediment-Soil System at the River Basin Scale.
 - Environment Agency -UK (2006) Remedial Targets Methodology - Hydrogeological Risk Assessment for Land Contamination.
 - European Commission (2005) Risks to Health and the Environment Related to the Use of Lead in Products.
-

New In-Situ Flushing Profiles

EPA has developed this CLU-IN area to summarize timely information about selected full- and field-scale applications of in situ flushing technologies. This area provides information about ongoing and completed applications to treat chlorinated solvents, petroleum products, metals, explosives, and PCBs in groundwater and soil. The project profiles provide summary information about each application, including relevant site information, contaminants and media treated, technology design and operation, cost information, and performance results, as well as point(s) of contact and references. Projects for this website are collected using information from technical journals, conference proceedings as well as other published sources including Record of Decisions (RODs) or 5-year reviews. As of April 2006, the Web site includes information on 23 in situ flushing project profiles including completed and on-going applications. For more information, see:

<http://clu-in.org/products/isf/> .

API Launches New Soil and Groundwater Website

API has reorganized its website to make it easier to find technical information related to subsurface fate and transport and natural attenuation of fuel constituents, site characterization and remediation. Sections of the website are devoted to oxygenates (including MtBE and ethanol), LNAPL and petroleum vapor intrusion. For more information, see:

<http://www.api.org/groundwater> .

CLU-IN Field Analytic Technologies Area

For those of you familiar with the former Field Analytic Technologies Encyclopedia (FATE), the information contained there-in can be accessed directly on CLU-IN. They have posted the information at <http://clu-in.org/char/technologies> and are working to update each of the technology areas.

RECENT DOCUMENTS, DATABASES, ETC.

These entries are arranged alphabetically. Thanks to TechDirect, Tech Trends, NRMRL News, the ETV Program, DOE, DoD and others for posting their latest documents. And remember, many of these are available in paper format in the Region 9 library. Use your local library.....or it may disappear. It's happening at EPA.....

Bioremediation of Acid Mine Drainage Using Sulfate-Reducing Bacteria
Prepared by Sheela M. Doshi, a National Network of Environmental Management studies
grantee, under a fellowship from the U.S. EPA
(August 2006, 72 pages)
http://www.clu-in.org/download/studentpapers/S_Doshi-SRB.pdf

Engineering Issue Paper: In Situ Chemical Oxidation
(EPA 600-R-06-072)
(August 2006, 60 pages)
<http://www.epa.gov/ada/download/issue/600R06072.pdf>

Grant Guidelines to States for Implementing the Secondary Containment Provision of the Energy
Policy Act of 2005
(November 2006, 13 pages)
http://www.epa.gov/oust/fedlaws/final_sc.htm

Hazardous Waste Clean-Up Information (CLU-IN) On-line Remediation Databases Fact Sheet
(EPA 542-F-06-006)
(September 2006, 4 pages)
http://www.clu-in.org/download/remed/online_remediation_factsheet.pdf

In Situ Treatment Technologies for Contaminated Soil
(EPA 542-F-06-013)
(November 2006, 35 pages)
<http://www.clu-in.org/download/remed/542f06013.pdf>

Long-Term Monitoring Network Optimization Evaluation for Operable Unit 2, Bunker Hill Mining and Metallurgical Complex Superfund Site, Idaho
(EPA 542-R-06-005)
(January 2006, 126 pages)
http://www.clu-in.org/download/remed/hyopt/application/bunker_hill.pdf

Long-Term Monitoring Network Optimization Evaluation for Wash King Laundry Superfund Site, Lake County, Michigan
(EPA 542-R-06-004)
(June 2006, 89 pages)
http://www.clu-in.org/download/remed/hyopt/application/bunker_hill.pdf

Management and Treatment of Water from Hard Rock Mines
(EPA 625-R-06-014)
(October 2006, 43 pages)
<http://www.epa.gov/ORD/NRMRL/pubs/625r06014/625r06014.pdf>

Measurement and Monitoring: 21st Quarterly Literature Search
(October 2006, 135 pages)
<http://clu-in.org/programs/21m2/>

Phytoremediation of Petroleum Hydrocarbons
Prepared by Amanda Van Epps during an internship with the U.S. EPA sponsored by the Environmental Careers Organization
(August 2006, 171 pages)
http://www.clu-in.org/download/studentpapers/A_Van_Epps-Final.pdf

Pilot Region-Based Optimization Program for Fund-Lead Sites in EPA Region 3
(EPA 542-R-06-006)
<http://www.clu-in.org/techfocus/default.focus/sec/Remediation%5FOptimization/cat/Application/page/2/#region3>

Proposal Guidelines for Brownfields Assessment, Revolving Loan Fund, and Cleanup Grants
(EPA OSWER)
RFP# EPA-OSWER-OBCR-07-01
(October 2006, 92 pages)
<http://www.epa.gov/oswer/docs/grants/epa-oswer-obcr-07-01.pdf>

Protocol for Enhanced In Situ Bioremediation Using Emulsified Edible Oil
(DoD ESTCP document ER-0221)
(June 2006, 100 pages)
<http://handle.dtic.mil/100.2/ADA451205>

Revegetating Landfills and Waste Containment Areas Fact Sheet
(EPA 542-F-06-001)
(October 2006, 12 pages)
http://www.clu-in.org/download/remed/revegetating_fact_sheet.pdf

SERDP & ESTCP Expert Panel Workshop on Reducing the Uncertainty of DNAPL Source Zone Remediation
(From the workshop held in Baltimore, MD; March 7-8,2006)
(approx. 200 pages)
<http://docs.serdp-estcp.org/viewfile.cfm?Doc=DNAPLWorkshopReport%2Epdf>

Standard Guide for Collecting Treatment Process Design Data at a Contaminated Site-A Site Contaminated With Chemicals of Interest
ASTM document D7294-06 (co-written by former EPA Engineering Forum member, Ed Mead)
http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D7294.htm?E+mystore

Systematic Planning: A Case Study for Hazardous Waste Site Investigations
(EPA 240-B-06-004)
(February 2006, 67 pages)
<http://www.epa.gov/quality/qs-docs/casestudy-final.pdf>

Technology News and Trends
(EPA 542-N-06-005)
(October 2006, 6 pages)
<http://www.clu-in.org/download/newsltrs/tnandt1006.pdf>

Technology News and Trends
(EPA 542-N-06-006)
(November 2006, 6 pages)
<http://www.cluin.org/download/newsltrs/tnandt1106.pdf>

Treatment Technologies for 1,4-Dioxane: Fundamentals and Field Applications
(EPA 542-R-06-009)
(November 2006, 30 pages)
<http://www.clu-in.org/download/remed/542r06009.pdf>

Vapor Intrusion Pathway: A Practical Guide
(ITRC VI-1)
(January 2007, 173 pages)
<http://www.itrcweb.org/Documents/VI-1.pdf>

Vapor Intrusion Pathway: Investigative Approaches for Typical Scenarios
(ITRC VI-2)
(January 2007, 52 pages)
<http://www.itrcweb.org/Documents/VI-1A.pdf>

Serious Scientists Gather 'Round...

....Funny journal article titles.....

TI: Getting religious about air pollution Burning incense during holiday church services may be bad for your health

AU:

JN: Environmental Science and Technology

PD: 2006

VO: 40

NO: 17

PG: 5167

PB: ACS AMERICAN CHEMICAL SOCIETY

IS: 0013-936X

PE: SEP 01

URL: <http://www.ingentaconnect.com/search/expand?unc=1064098329>

Click on the URL to access the article or to link to other issues of the publication.

TI: Exposure of Churchgoers to Airborne Particles
AU: Weber, S
JN: Environmental Science and Technology
PD: 2006
VO: 40
NO: 17
PG: 5251-5256
PB: ACS AMERICAN CHEMICAL SOCIETY
IS: 0013-936X
PE: SEP 01
URL: <http://www.ingentaconnect.com/search/expand?unc=1064098316>
Click on the URL to access the article or to link to other issues of the publication.

....Not so funny journal article.....

TI: Comment on "American Exceptionalism? Similarities and Differences in National Attitudes Toward Energy Policy and Global Warming"
AU: Wallace, D
JN: Environmental Science and Technology
PD: 2006
VO: 40
NO: 21
PG: 6865-6866
PB: ACS AMERICAN CHEMICAL SOCIETY
IS: 0013-936X
PE: NOV 01
URL: <http://www.ingentaconnect.com/search/expand?unc=1064879871>
Click on the URL to access the article or to link to other issues of the publication.

Disclaimer

This quarterly newsletter publication is meant to be used for information only. It does not represent the opinion of the management of the regional or national offices of EPA, only that of the author. The accuracy of the information contained herein is not guaranteed, only desired. If corrections are necessary, please contact the author. Thanks again to all of my information resources, which include EPA's OSRTI (formerly TIO), ORD (including ETV and NRMRL News) and Region 1's CEIT.

Thanks for reading it! Comments and suggestions are appreciated. If you wish to be added to or deleted from this list, please send me an email. (gill.michael@epa.gov)

Newsletter archives can be found on the EPA intranet site.....

<http://www.epa.gov/osp/hstl/hstlnewsletter.htm>

A number of environmental technology web resources can be found

here.....<http://www.epa.gov/region09/waste/techlinks/>

And don't forget the HSTL website.....<http://www.epa.gov/osp/hstl.htm>

Mike Gill
ORD Hazardous Substances Technical Liaison
US EPA Region 9 / SFD-84
75 Hawthorne Street
San Francisco, CA 94105
415-972-3054
415-947-3520 (Fax)
Gill.Michael@epa.gov
