



June 2009

State and National Updates

Kansas

- **Finding the Contamination:** Kansas Department of Health & Environment's Drycleaning Program recently completed remedial assessments at sites in Derby, Kansas and Wichita, Kansas. Previous high PCE soil contaminant levels were identified in the order of 5,000-20,000 $\mu\text{g}/\text{kg}$. Prior to completing a remedial design for *in-situ* vadose zone chemical oxidation, KDHE collected additional soil samples inside the former drycleaners. The results were very high with PCE levels of 20,000,000 $\mu\text{g}/\text{kg}$ at the Wichita site and 50,000,000 $\mu\text{g}/\text{kg}$ in Derby. These results confirm the importance of finding the "hot spot" or primary contamination prior to remedial design implementation. The high levels of PCE in the soil caused KDHE to shift remediation efforts away from vadose zone chemox and focus on enhancing an SVE system in Wichita and interior excavation with a chemox drip system at the Derby site.

Missouri

- On December 30, 2008, the Missouri Department of Natural Resources' Drycleaning Environmental Response Trust (DERT) Fund issued a Certificate of Completion for the former Staten Island Cleaners site, 185 Cross Keys Shopping Center, Florissant, Missouri. The Staten Island Cleaners previously was a dry-cleaning facility that operated from about 1991 to 2001 at the Cross Keys Plaza shopping center.

Site investigations revealed the presence of volatile organic compounds, primarily chlorinated solvents from the former dry cleaning operations at the site in soil and groundwater. In 2005, a new commercial building, Building K, was constructed and overlaps the eastern footprint of the former Staten Island Cleaners building. To mitigate any potential for indoor inhalation of vapors from soil and/or groundwater contaminants, a vapor mitigation system (VMS) consisting of active venting from the subslab space was installed during construction of the building. The VMS operated from July 2005 through July 2006, when it was converted from active to passive venting. Monthly sampling of the VMS effluent air and the indoor air, and quarterly monitoring of groundwater was conducted to assess risk from contaminated soil and groundwater. Following site characterization activities, Tier 1 and Tier 2 Risk

Assessments were performed in accordance with the Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance. Concentrations of chemicals of concern in soil are below applicable Site-Specific Target Levels (SSTLs). In addition, the cumulative site-wide risk is acceptable for residential use of the property.

Sansone Cross Keys, LLC, redeveloped the property as part of the larger Shoppes at Cross Keys redevelopment, a 335,000 square foot center anchored by Schnucks Supermarket and Home Depot. Currently, the western half of Building K is occupied by the Armed Forces Career Center, and the eastern half is occupied by Men's Warehouse.

- The deadline for notifying the Drycleaning Environmental Response Trust Fund (DERT) Unit of abandoned dry cleaning sites is **July 1, 2009**. DERT Fund monies cannot be used to pay for corrective action costs at abandoned dry cleaning facilities that were taken out of service prior to July 1, 2009 and not documented by or reported to the DERT Fund by July 1, 2009.

Owners or former operators that have not reported the locations of these abandoned facilities to the department can submit the *Notification for the Existence or Former Existence of a Dry Cleaning Facility* (MO 780-1831) form and any available evidence that the property once contained a dry cleaning facility by the deadline. A copy of this form is available on the DERT Fund's Web site at <http://www.dnr.mo.gov/env/hwp/dert/hwpvcp-dryclean.htm> or by contacting the DERT Fund at 573-526-8913 or 800-361-4827.

North Carolina

- The NC Dry-Cleaning Solvent Cleanup Program has now completed remediation and closed 4 sites. Remediation has been completed at another 11 sites where the closure process has been initiated. Remedial technologies completed or underway at several sites include soil excavation, mobile multiphase extraction, soil vapor extraction, and injectants for enhanced reductive chlorination (ABC and HRC).

Program reauthorization is currently being sought from the NC General Assembly as two bills are moving through the House and Senate. If approved, this legislation would extend program funding until 2010 and program implementation until 2012.

Wisconsin

- Wisconsin's Dry Cleaner Environmental Response Fund (DERF) reimburses dry cleaners for their site investigation and cleanup costs. The fund is over subscribed, with more demand for reimbursement than current revenues can sustain. Currently, dry cleaner owners can expect to wait 2 years or more for reimbursement of their cleanup costs. In addition, revenues from licensing fees have declined, likely due to the economy. The Governor has proposed a budget provision that would transfer between \$5 and \$6 million from one environmental fund to DERF. This transfer

would allow payment of all backlogged reimbursements and should allow on-time reimbursement of cleanup costs through the 2010/11 biennium.

State Progress on Remediation of Dry Cleaning Sites

Remediation is currently being conducted at drycleaning sites in all of the member states. As of May 15, 2009, cumulative statistics for the State Coalition for Remediation of Drycleaners member states are as follows:

3,761 Sites in drycleaning programs
2,200 Sites where contamination assessment work has been initiated
1,211 Sites where contamination assessment work has been completed
555 Sites where remediation has been initiated
180 Sites where remediation has been completed
572 Sites closed

Remedial Technologies Employed at SCRD Drycleaning Sites

Soil/Sediment/Sludge Remediation:

- Excavation/Removal, including conventional excavations, trench box excavations, large diameter auger, vacuum trucks, septic tank/lift station cleanouts
- Soil Vapor Extraction (in-situ and ex-situ)
- Heated Soil Vapor Extraction
- Passive Venting
- Mobile Injection Treatment Unit
- Sub-slab Depressurization System

Groundwater Remediation:

- Pump & Treat
- Multi-phase Extraction
- Air Sparging
- Recirculating Wells
- Chemical Oxidation using: Fenton's Reagent, potassium permanganate, sodium permanganate, hydrogen peroxide, ozone, Cool-Ox™, persulfate
- Bioremediation using: HRC[®], HRC-X™, Cl-Out, ethyl lactate, sodium lactate, potassium lactate, molasses, emulsified oil substrate, ORC[®], ABC[®], ERC, Phoster's Process™, Vitamin B₁₂ / B₁, chitin, corn syrup, vegetable oil, and Bio Rem H-10™
- Bioaugmentation using: KB-1™, Bio-Dechlor INOCULUM™, Pseudomonas, Co-solvent flushing
- Granular activated carbon
- Surfactant/Co-solvent flushing
- Co-oxidation
- Nanno-scale zero-valent iron
- Diffusive Emitter
- Permeable Reactive Barrier (iron filings)

- Zero-Valent Iron Soil Mixing
- Zero valent iron
- Electrical Resistance
- Vapor control/venting
- Monitored Natural Attenuation (MNA)

Upcoming Events

- June 9-11, 2009, University of Massachusetts-Amherst – International Conference on the Environmental Implications and Applications of Nanotechnology. Co-sponsored by USEPA, Office of Superfund Remediation and Technology Innovation and EPA Office of Research and Development (www.teiconferences.com/nanoconference).
- November 16-18, 2009, New Orleans, Louisiana – Brownfields 2009 National Conference (www.brownfields2009.org).
- December 10-13, 2009, New Orleans, Louisiana – National Ground Water Association’s 2009 Ground Water Expo and Annual Meeting (www.ngwa.org).
- May 24-27, 2010, Monterey, California – Remediation of Chlorinated and Recalcitrant Compounds, The Seventh International Conference (www.battelle.org/conferences/chlorinated/).

SCRD Facts

- As of May 13, 2009, there are 705 subscribers to the SCRDR newsletter.

Newsletter Subscription

If you would like to be placed on the subscription list for the SCRDR newsletter please go to the following address <http://www.drycleancoalition.org/newsletter.cfm>. Copies of previous newsletters can be viewed at <http://www.drycleancoalition.org/pubs.cfm> on the SCRDR website.

SCRDR members are state governments that have established programs to fund remediation of drycleaner sites. Current member states include Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin. California, Maryland, New Jersey, New York, and Virginia, which do not have formal programs but are active in drycleaner remediation under other authorities, also participate in Coalition activities. SCRDR provides a forum for states to share programmatic, technical, and environmental information to improve the remediation of drycleaner sites. SCRDR was established in 1998 and receives technical, management, and training support from the U.S. EPA Office Superfund Remediation and Technology Innovation (OSRTI) and the National Ground Water Association (NGWA).