Eva Davis, Hydrologist in EPA's National Risk Management Research Laboratory

Groundwater, Watershed, and Ecosystem Restoration Division
Mailing Address

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Area of Expertise:
Research and technical support on thermal remediation technologies for soils and aquifers that are contaminated with organic compounds. Effects of temperature on the properties of organic contaminants and their transport in the subsurface.

Select Publications:
Costanza, J., J. Mulholland, K. Pennell, and **E. Davis**, Effects of Thermal Treatments on the Chemical Reactivity of Trichloroethylene, EPA 600/R-07/091, US Environmental Protection Agency, Office of Research and Development, Ada, Oklahoma, August 2007.

Davis, E. L., N. Akladiss, R. Hoey, B. Brandon, M. Nalipinski, S. Carroll, G. Heron, K. Novakowski, and K. Udell, Steam Enhanced Remediation Research for DNAPL in Fractured Rock, Loring Air Force Base, Limestone, Maine, EPA/540/R-05/010, State of Maine Department of Environmental Protection and US Environmental Protection Agency, Office of Research and Development, Ada, Oklahoma, August 2005.

Novakowski, K., K. M. Stephenson, **E L. Davis**, S. Carroll, G. Heron, and K. Udell. Simple Analytical Model for Heat Flow in Fractures - Application to Steam Enhanced Remediation Conducted in Fractured Rock. In Proceedings, 2004 U.S. EPA/NGWA Fractured Rock Conference: State of the Science and Measuring Success in Remediation, Portland, ME, September 13 - 15, 2004. National Ground Water Association, Westerville, OH, 908, 2004.

Davis, E. L., Steam injection for soil and aquifer remediation, Ground Water Issue Paper, US Environmental Protection Agency, EPA/540/S-97/505, 1998.

Davis, E.L., How heat can enhance in-situ soil and aquifer remediation: Important chemical properties and guidance on choosing the appropriate technique, Ground Water Issue Paper, US Environmental Protection Agency, EPA/540/S-97/502, 1997.

Davis, E L. Effect of temperature and pore size on the hydraulic properties and flow of a hydrocarbon oil in the subsurface. Journal of Contaminant Hydrology 16:55-86, 1994.

View more research publications by Eva Davis.

Education:
- Ph.D., Colorado State University, Fort Collins, CO; Agricultural Engineering, 1990
- M.S.E., Texas A&M University, College Station, TX; Agricultural Engineering, 1986
- B.S.E., Purdue University, West Lafayette, IN; Environmental Engineering, 1979

Professional Experience:
Technical Support
- This work has included laboratory experiments on hot water displacement of oily contaminants from sands, measurements of soil characteristic curves for oil and water

as a function of temperature, measurements of hydraulic conductivity and intrinsic permeability of sands using different liquids as a function of temperature, and measurements of the physical properties of nonaqueous-phase liquids as a function of temperature.

- Laboratory work includes treatability studies of thermal remediation for contaminants such as creosote and chlorobenzene/DDT.
- Field-based research activities include the use of steam injection for the remediation of dense nonaqueous-phase liquids from fractured rock, and a detailed assessment of electrical resistance heating to remediate solvents from tight soils.
- Extensive site-specific technical support for sites where thermal remediation is being considered or is currently being used.
- Technical support activities include characterization for remediation purposes; evaluation of the applicability of thermal methods for a particular site; overview of design, construction, and operation; and performance assessments.

Awards and Honors

- Exceptional/Outstanding Office of Research and Development Technical Assistance to the Regions or Program Offices, 2014
- Exceptional/Outstanding Office of Research and Development Technical Assistance to the Regions or Program Offices, 2009
- Exceptional/Outstanding Office of Research and Development Technical Assistance to the Regions or Program Offices, 1999
- Science and Technology Achievement Award level II, 1996

Science Matters: Meet EPA Hydrologist Eva Davis, Ph.D.