

# Biographical Summary

## David E. Merrill, M.S., Principal

Mr. Merrill has over 20 years of experience assisting clients on a wide variety of environmental matters. His expertise includes multi-disciplinary risk assessments, multimedia chemical fate and transport modeling, creative data and environmental forensics analysis, and extensive experience with PCBs. He has served as a technical expert on cases involving PRP cost allocation / cost recovery disputes, and in toxic tort cases, including high-profile PCB cases. Mr. Merrill has successfully negotiated risk-based cleanup levels and remedial strategies, evaluated ecological risks and NRD claims associated with contaminated sediments, and evaluated multimedia chemical fate in water, sediments, and biological tissues. He has evaluated potential environmental impacts and health risks associated with hydraulic fracturing procedures for natural gas production. Mr. Merrill has submitted comments to the US EPA relating to the multimedia modeling and risk assessment aspects of the LDR and the HWIR Rules, and has served as a scientific peer reviewer on several US EPA Science Advisory Board panels.

## Representative Projects

**Cost Allocation Expert, PCBs at Transformer Repair Facilities:** Developed allocation metrics and negotiation strategy in several cost recovery disputes.

**PCB Tort Cases:** Evaluated historical standards of care relating to waste management; evolution of environmental regulations; evolution of awareness of PCBs as an environmental issue; and historical uses of PCBs in electrical equipment, hydraulic fluids, plasticizers/paints, among others. Evaluated Aroclor and congener fingerprints, dioxin-like PCB and dioxin-related claims. Assessed environmental distribution in sediments, soils, blood serum, tree bark, and other matrices.

**PCB Cost Allocation Expert, Midwestern River:** Expert during mediation hearings relating to PCBs in sediment associated with discharges from paper companies. Developed allocation model based on production, paper recycling/de-inking metrics, and historical waste discharges reconstructed from contemporaneous data.

**Hydraulic Fracturing Risk Evaluation:** Assessed fate/transport and human health risks associated with HF additives and flowback constituents for the Marcellus Shale formation, submitted comprehensive comments in response to the New York State SGEIS and EPA's HF Study Plan.

**Product Safety:** Assisted clients with REACH pre-registration strategy and evaluation of registration obligations. Evaluated chemical emissions from building caulk potentially triggering California Prop 65 labeling requirements. Developed product disposal safety guidelines for global cleaning products company.

**Generator Liability, RCRA Hazardous Waste TSD Facility:** Developed risk-based analyses and provided deposition testimony addressing the need for remedial actions caused by client's wastes (DNAPL and trace metals).

**Renegotiated PCB Cleanups at Natural Gas Compressor Stations:** Negotiated remedial action levels for PCBs up to 500 mg/kg in soils to achieve risk-based target average of 25 mg/kg. Outcome represents US EPA-approved reinterpretation of an existing Consent Order.

**MGP Response Cost Recovery:** Evaluated nature, extent and timing of chemical contamination at a former manufactured gas plant in New York.

**Natural Resources Damage Claims:** Examined sources of contamination and "NRD drivers" in negotiations involving allocation of PRP costs at a midwestern site containing PCBs, metals, PAHs, and other constituents in sediments.



## Practice Areas & Expertise

- Risk-Based Cleanup Negotiations
- Cost Allocation
- PCBs & Sediments
- Hydraulic Fracturing Risk Analysis
- Regulatory impact analysis
- Multimedia Modeling
- Statistical & Monte Carlo Methods
- Database Design & Synthesis

## Education

Ph.D., Agricultural Engineering, Cornell University (completed coursework & qualifying exams)

M.S., Agricultural Engineering, Cornell University

B.S., Soil and Water Science, University of California at Davis

## US EPA SAB Panels

- Multimedia, Multipathway, and Multireceptor Risk Assessment (3MRA)
- Regulatory Environmental Modeling (REM) Guidance

## Selected Publications

Merrill, DE; Drivas, PJ; Butler, EL; Jegadeesan, GB. 2011. "Determination of polychlorinated biphenyl (PCB) release timeframe using weathered congener and homolog fingerprints and a multicomponent evaporation model." In *Environmental Forensics* 12: 35-48.

Cohen, JT; Bowers, TS; Lampson, DW; Merrill, DE. 1997. "Quantification of exposure area cleanup thresholds when contaminant levels are uncertain." In *Proceedings of the Joint Statistical Meetings: American Statistical Association Section on Statistics and the Environment*, Anaheim, CA, August 10-14.

Li, W; Merrill, DE; Haith, DA. 1990. "Loading functions for pesticide runoff." In *Research Journal Water Pollution Control Federation* 62(1):16-26.



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