



CHARLES B. ANDREWS

Groundwater Hydrologist

AREAS OF EXPERTISE

- Simulation of Groundwater Flow/ Contaminant Fate and Transport
- Water Resource and Water Rights Evaluations
- Contaminated Site Investigation and Remediation
- Expert Testimony
- Peer Review

SUMMARY OF QUALIFICATIONS

Dr. Andrews is nationally known for his creative solutions to difficult water resource problems. His areas of expertise include the assessment and remediation of contaminated sites, formulation of water resource projects, assessment of surface water and groundwater flow and quality conditions at hazardous waste sites, design of water remediation systems, and development of new and modification of off-the-shelf numerical simulation models for adaptation to specific field projects. He has provided technical guidance to significant water-rights litigation. Dr. Andrews is a frequently requested member of groundwater advisory panels for the evaluation of state-of-the-art hydrology and for pioneering research and evaluation of contaminant transport in the subsurface. He is the author and co-author of numerous publications on modeling of groundwater flow and transport of chemical constituents, and the use of analytical models in identifying appropriate remediation alternatives for a site.

REPRESENTATIVE EXPERIENCE

S.S. Papadopoulos & Associates, Inc., Bethesda, Maryland

- **Onondaga Lake, Syracuse, New York**– Headed the groundwater modeling effort for design of remedial alternatives for this lake, reputed to be the most contaminated lake in the U.S. Remediation costs projected to cost several hundreds of millions of dollars. Interacted frequently with and made many presentations to the New York State Department of Environmental Conservation.
- **Large Industrial Site, Georgia**– Conducted a detailed field and laboratory evaluation of the leachability of PCBs from contaminated soils at this site. Developed innovative methods to distinguish dissolved and particulate phase PCBs in leachate from batch tests.
- **Confidential Client, Michigan** – Conducted a detailed laboratory evaluation of analytical methods used to analyze for phenols in water samples. Determined that certain analytical methods are prone to false-positive due to reactions with dissolved natural organic matter during the analytical procedure. Identified the probable reaction pathways for the reactions that create phenols from the

YEARS OF EXPERIENCE: 30+

EDUCATION

- PhD**, Geology, University of Wisconsin, Madison, 1978
- MS**, Geology, University of Wisconsin, Madison, 1976
- MS**, Water Resources, University of Wisconsin, Madison, 1974
- BA**, Geology, Carleton College, 1973
- American University of Beirut, Beirut, Lebanon, 1971 to 1972

REGISTRATIONS

Registered Geologist:

- Alabama No. 1175
- California No. 3853
- Georgia No. PG001689
- Illinois No. 196001360
- Mississippi No. 859
- Washington No. 2841

PROFESSIONAL HISTORY

S.S. Papadopoulos & Associates, Inc.

- Principal, 1984 - present
- President, 1994 – 2012

Woodward - Clyde Consultants

- Hydrogeologist and head of Groundwater Section, 1980 - 1984

Northern Cheyenne Indian Tribe

- Scientist, 1978 - 1980

Wisconsin State Government

- Dept. of Justice and Department of Natural Resources, Consultant, 1977 - 1978

University of Wisconsin, Madison

- Dept. of Geology & Geophysics, Research Assistant, 1975 - 1978
- Dept. of Water Resources, Researcher, 1974 - 1975

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dissolved organic matter.

- **U.S. Department of Justice**– Participated as a technical expert for a major pipeline company in a year-long Consent Decree negotiations with the on soil and groundwater contamination issues at 30 compressor station sites. Developed a comprehensive framework, which was incorporated in the Consent Decree, for efficient, cost-effective investigation and remediation of compressor stations.
- **Major Bottled-Water Company, Michigan**– Provided groundwater consulting services for the identification and development of spring water sources. This work involved development of groundwater models to determine potential production rates, optimal pumping rates and locations, and environmental effects of water production. Developed long-term monitoring plans and was an expert witness in litigation related to development and operation of spring water sources.
- **Professional Review and Services**– Served as Chair of External Peer Review Panel for Frenchman Flat CAU at the Nevada Test Site, 2010. Served on a review panel for Hanford site-wide groundwater flow and transport model, 1989-2001. Developed a groundwater model of the A- and M- areas at the Savannah River Site, 1985-1986.
- **Eastern USA** – Directed a study to evaluate the mobility and fate of polychlorinated biphenyl compounds (PCBs) in the subsurface for over 30 contaminated sites. These studies involved laboratory and field experiments to investigate the interactions between PCBs and the subsurface materials, and to investigate the potential degradation of PCBs in the subsurface. Long-term monitoring was selected as the appropriate remedial action at all the sites.
- **New Mexico Attorney General, Hueco Bolson and the Mesilla Basins, New Mexico**– Evaluated the long-term availability of groundwater and the associated water-quality problems of these large regional aquifers in southern New Mexico. Served as an expert witness in litigation involving the proposed development of large water supplies from these basins.
- **Industrial sites, California and New Jersey**– Managed remediation activities, including remedial investigations, feasibility studies, remedial design and implementation, for industrial sites that are extensively contaminated with arsenic and associated heavy metals. Several of these investigations involved the evaluation of geochemical parameters that govern arsenic mobility in the subsurface and groundwater/surface-water interactions.

Woodward-Clyde Consultants, San Francisco and Walnut Creek, California

Senior Project Manager of the 15-person Ground-Water Group: Responsible for water-resource business development, technical review of all water-resource projects, and staff administration. Served as Project Manager and Hydrology Task Leader on projects such as the development of groundwater flow models of Madison Aquifer in Wyoming and the San Juan Basin in New Mexico; analysis of reservoir-induced seismicity at the Aswan Dam; and development of a groundwater model and remediation plan for a 12,000-acre site having 200 major source areas. Responsible for developing the firm's state-of-the-practice capabilities in quantitative hydrology.

Northern Cheyenne Indian Tribe, Lame Deer, Montana

Directed and helped establish a comprehensive surface-water and groundwater monitoring program, and established and managed the tribal computer system. Trained tribal members in the operation and management of the hydrologic monitoring system and the computer system. Participated in numerous administrative and legislative proceedings as an advocate for tribal management of the reservation's natural resources.

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Wisconsin State Government, Department of Justice and Department of Natural Resources,
Madison, Wisconsin

Served as an expert witness for several judicial and administrative proceedings on cases involving groundwater contamination and wetland drainage.

University of Wisconsin, Department of Geology and Geophysics, Madison, Wisconsin

Researched the impacts of heated-water seepage from a power plant cooling lake. Developed a finite-element computer code to simulate water and heat transfer in shallow unconfined aquifers, and designed and maintained an extensive field monitoring program to collect the data needed for model verification.

University of Wisconsin, Department of Water Resources, Madison, Wisconsin

Conducted research that was funded by the U.S. Environmental Protection Agency-Denver, on the impact of oil shale development to the groundwater and surface-water resources of northwestern Colorado.

APPOINTMENTS

American Geophysical Union
National Ground Water Association
American Association for the Advancement of Science
Geological Society of America
American Water Works Association

PUBLICATIONS & PRESENTATIONS

- Andrews, C. 2011. How Much Modeling is Enough? Maxwell, P., Hill, & Zheng. ed. MODFLOW and More 2011; Integrated Hydrologic Modeling, International Groundwater Modeling Center (IGWMC), Colorado School of Mines, 1.
- Andrews, C. 2011. Urban Recharge Myth: Case Study of Montgomery County, Maryland. 2011 Ground Water Summit and 2011 Ground Water Protection Council Spring Meeting. National Ground Water Association, Baltimore, MD, 1.
- Root, R.A., D. Vlassopoulos, N.A. Rivera, M.T. Rafferty, C. Andrews, and P.A. O'Day. 2009. Speciation and Natural Attenuation of Arsenic and Iron in a Tidally Influenced Shallow Aquifer: *Geochimica et Cosmochimica Acta, ScienceDirect*. 26.
- Johnson, T., C. Andrews, and M. Hennessey. 2009. Development of Chloride Profiles to Estimate Groundwater Discharge for Cap Design in Onondaga Lake. Fifth International Conference on Remediation of Contaminated Sediments, Jacksonville, Florida, February 2-5, 2009.
- Barth, G., and C. Andrews. 2009. Practical Problems, Practical Solutions. National Groundwater Association's Annual Groundwater Summit, Tucson, Arizona April 19 - 23, 2009. Tucson. April 19 - 23.
- Spiliotopoulos, A., and C.B. Andrews. 2007. Analysis of Aquifer Test Data – MODFLOW and PEST. In *Groundwater and Wells*.(3rd ed.). Sterrett, R.J., editor. New Brighton, MN: Johnson Screens. 812p.
- Andrews, Charles. 2008. One Hydrogeology A New Paradigm for Model Construction: Modeling with Google Earth. MODFLOW and More 2008: Ground Water and Public Policy Conference, May 18-21, 2008, Golden, Colorado.
- Andrews, C.B., 2008. Review of "Effective Groundwater Model Calibration: With Analysis of Data, Sensitivities, Predictions, and Uncertainty": *Ground Water*. 46, no. 1: 5.

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- Karanovic, M., C.J. Neville, and C.B. Andrews. 2007. BIOSCREEN-AT: BIOSCREEN with an Exact Analytical Solution: *Ground Water*. 45, no. 2: 242-245.
- Andrews, C.B., and G. Swenson. 2006. Simulation of Brine Movement into Onondaga Lake. MODFLOW and More 2006, Managing Ground-Water Systems, International Ground Water Modeling Center, Colorado School of Mines Golden, Colorado, May 22-24, 2006. Vol. 2. 480-483.
- Neville, C.J., and C.B. Andrews. 2006. Containment Criterion for Contaminant Isolation by Cutoff Walls: *Ground Water*. 44, no. 5, September-October: 682-686.
- Spiliotopoulos, A.A., and C.B. Andrews. 2006. Analysis of Aquifer Test Data – MODFLOW and PEST. MODFLOW and More 2006, Managing Ground-Water Systems, International Ground Water Modeling Center, Colorado School of Mines, Golden, Colorado, May 22-24, 2006. Vol. 2. 569-573.
- Vlassopoulos, D., N. Rivera, P.A. O'Day, M.T. Rafferty, and C.B. Andrews. 2005. Arsenic Removal by Zerovalent Iron: A Field Study of Rates, Mechanisms, and Long-Term Performance. In *Advances in Arsenic Research: Integration of Experimental and Observational Studies and Implications for Mitigation*. O'Day, P.A., D. Vlassopoulos, X. Meng, and L.G. Benning, editors. ACS Symposium Series Vol. 915. Washington, DC: American Chemical Society. 344-360.
- Andrews, C., and C. Neville. 2003. Ground Water Flow in a Desert Basin: Challenges of Simulating Transport of Dissolved Chromium: *Ground Water*. 41, no. 2: 219-226.
- Rafferty, M.T., C.B. Andrews, D. Vlassopoulos, D. Sorel, and K.M. Binard. 2003. Remediation of an Arsenic Contaminated Site. Presented at the 226th American Chemical Society National Meeting, September 7-11, 2003, New York City, New York.
- Vlassopoulos, D., C.B. Andrews, M. Rafferty, P.A. O'Day, and N.A. Rivera Jr. 2003. In Situ Arsenic Removal by Zero Valent Iron: An Accelerated Pilot Test Simulating Long-Term Permeable Reactive Barrier Performance. Presented at the 226th American Chemical Society National Meeting, September 7-11, 2003, New York City, New York.
- Sorel, D., C.J. Neville, M.T. Rafferty, K. Chiang, and C.B. Andrews. 2002. Hydraulic Containment Using Phytoremediation and a Barrier Wall to Prevent Arsenic Migration. In *Proceedings of the Third International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 20-23, 2002, Monterey, California*. Gavaskar, A.R., and A.S.C. Chen, editors. Battelle Press.
- Vlassopoulos, D., J. Pochatila, A. Lundquist, C.B. Andrews, M.T. Rafferty, K. Chiang, D. Sorel, and N.P. Nikolaidis. 2002. An Elemental Iron Reactor for Arsenic Removal from Groundwater. In *Proceedings of the Third International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 20-23, 2002, Monterey, California*. Gavaskar, A.R., and A.S.C. Chen, editors. Battelle Press.
- Andrews, C., and C. Neville. 2001. Groundwater Flow in a Desert Basin: Complexity and Controversy. Proceedings of MODFLOW 2001 and Other Modeling Odysseys, September 11-14, 2001, International Groundwater Modeling Center, Golden, Colorado. 770-775.
- Andrews, C.B. 2000. The Great American Experiment: Pump-and-Treat for Groundwater Cleanup. Proceedings of the International Symposium on Groundwater Contamination, Japanese Association of Groundwater Hydrology, Tokyo, Japan. June 26.
- Andrews, C.B. 2000. The Meaning of Success in Assessing Groundwater Remediation. Western Pacific Geophysics Meeting, June 27-30, 2000, Tokyo, Japan. In *Eos*. 81, no. 22, May 30.

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- Andrews, C.B., and D. Vlassopoulos. 2000. Modeling the Migration of Arsenic in Groundwater, Understanding the Processes. Geological Society of America, Annual Meeting, October, 2000, Reno, Nevada. In *Abstracts with Programs, Geological Society of America*. A406-7.
- Vlassopoulos, D., and C.B. Andrews. 2000. The Intertwined Fate of Iron and Arsenic in Contaminated Groundwater Entering a Tidal Marsh, San Francisco Bay. National Ground Water Association Theis 2000 Conference on Iron in Groundwater, September 15-18, 2000, Jackson Hole, Wyoming. (Invited speaker).
- Lolcama, J.L., and C.B. Andrews. 1999. Catastrophic Flooding of a Quarry in Karstified Dolomite (Abstract). NGWA National Convention and Exposition, December 3-6, 1999, Nashville, Tennessee. In *Ground Water Supply Issues in the Next Century, 1999 Abstract Book*. National Groundwater Association, editor. Nashville, Tennessee: National Groundwater Association.
- Vlassopoulos, D., C. Andrews, R. Hennes, and S. Macko. 1999. Natural Immobilization of Arsenic in the Shallow Groundwater of a Tidal Marsh, San Francisco Bay. Presented at the American Geophysical Union 1999 Spring Meeting, May 31-June 4, Boston, Massachusetts.
- Andrews, C.B. 1998. MTBE: A Long-Term Threat to Ground Water Quality: *Ground Water*. 36, no. 5: 705-706.
- Hennes, R., D.A. Carleton, S.A. Macko, and C.B. Andrews. 1997. Environmental Applications of Carbon, Nitrogen, and Sulfur Stable Isotope Data: Case Studies (abstract). Geological Society of America, Annual Meeting, Salt Lake City, Utah, November 1997. (Invited speaker).
- Zhang, Y., C. Zheng, C.J. Neville, and C.B. Andrews. 1996. ModIME User's Guide: An Integrated Modeling Environment for MODFLOW, PATH3D, and MT3D. Version 1.1. Bethesda, MD: S.S. Papadopoulos & Associates, Inc.
- Larson, S.P., C.B. Andrews, and C.J. Neville. 1995. Parameter Estimation in Groundwater Modeling: Research, Development, and Application (Abstract). American Geophysical Union (AGU) Spring Meeting, Baltimore, May 30 - June 2, 1995, Hydrology Sessions. S145, Abstract H51C-02 0835h.
- Andrews C.B. (co-author). 1994. Chapter 3: Performance of Conventional Pump-and-Treat Systems and Chapter 5: Characterizing Sites for Ground Water Cleanup. In *Alternative Ground Water Cleanup*. Washington, DC: National Academy Press.
- Hennes, R.J.-C., and C.B. Andrews. 1993. PCB Congeners as Tracers for Colloid Transport in the Subsurface--A Conceptual Approach. In *Manipulation of Groundwater Colloids for Environmental Restoration*. Ann Arbor, MI: Lewis Publishers. 241-246.
- Zheng, C., G.D. Bennett, and C.B. Andrews. 1992. Reply to the Preceding "Discussion by Robert D. McCaleb of 'Analysis of Ground-Water Remedial Alternatives at a Superfund Site'": *Ground Water*. 30, no. 3: 440-442.
- Zheng, C., G.D. Bennett, and C.B. Andrews. 1991. Analysis of Ground-Water Remedial Alternatives at a Superfund Site: *Ground Water*. 29, no. 6: 838-848.
- Andrews C.B. (co-author). 1990. Chapter 5: Experience with Contaminant Flow Models in the Regulatory System. In *Ground Water Models: Scientific and Regulatory Applications*. Washington, DC: National Academy Press.
- Andrews, C.B., D.L. Hathaway, and S.S. Papadopoulos. 1990. Modeling the Migration and Fate of Polychlorinated Biphenyls in the Subsurface. Proceedings of the PCB Forum, Second International Conference for the Remediation of PCB Contamination, April 2-3, 1990, Houston, Texas. 64-82.

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- Hathaway, D.L., and C.B. Andrews. 1990. Fate and Transport Modeling of Organic Compounds from a Gasoline Spill. Proceedings of Petroleum Hydrocarbons and Organic Chemicals in Ground Water; Prevention, Detection, and Restoration, National Water Well Association and American Petroleum Institute, October 31-November 2, 1990, Houston, Texas. In *Ground Water Management*. 4. 563-576.
- Stephenson, D.E., G.M. Duffield, D.R. Russ, C.B. Andrews, and E.C. Phillips. 1989. Practical Use of Models in Ground Water Assessment and Protection Programs at the Savannah River Site: Three Case Histories. Presented at the Joint USA/USSR Conference on Hydrogeology, Moscow, USSR, June 30-July 11, 1989.
- Andrews, C.B., and S.P. Larson. 1988. Evolution of Water Quality in the Lower Rio Grande Valley, New Mexico: *Eos*. 69, no. 16: 357.
- Larson, S.P., C.B. Andrews, M.D. Howland, and D.T. Feinstein. 1987. Three-Dimensional Modeling Analysis of Groundwater Pumping Schemes for Containment of Shallow Groundwater Contamination. Presented at Solving Ground Water Problems with Models, Association of Ground Water Scientists and Engineers, Denver, Colorado, February 10-12, 1987. In *Solving Ground Water Problems with Models, An Intensive Three-Day Conference and Exposition Devoted Exclusively to Ground Water Modeling*. Vol. 1. Dublin, OH: National Water Well Association. 517-536. February 11.
- Looney, B.B., R.A. Field, G.B. Merrell, G. Duffield, and C.B. Andrews. 1987. Analyses of the Validity of Analytical Models Used for Assessment of Forty-Five Waste Site Areas: Subsurface Flow and Chemical Transport. In *Solving Ground Water Problems with Models*. Dublin, OH: National Water Well Association. 954-982.
- Stephenson, D.E., B.B. Looney, C.B. Andrews, and D.R. Buss. 1987. Three-Dimensional Simulation of Groundwater Flow and Transport of Chemical and Low-Level Radioactive Constituents within Two Production Areas of the Savannah River Plant. Proceedings of the 9th Annual Low-Level Radioactive Waste Conference, U.S. Department of Energy, Washington, DC. 472-481.
- Auerbach, S.I., C. Andrews, D. Eyman, D.D. Huff, P.A. Palmer, and W.R. Uhte. 1984. Report of the Panel on Land Disposal. In *Disposal of Industrial and Domestic Wastes: Land and Sea Alternatives*. Washington, DC: National Academy Press. 73-100.
- Andrews, C.B. 1983. Hydrogeology in North America -- 1932 to 1982. In *The Revolution in Earth Sciences: Advances in the Past Half-Century*. Boardman, S., editor. Kendall/Hunt Publishing Company.
- Andrews, C.B. 1979. *Impacts of Coal-Fired Power Plants on Local Ground-Water Systems*. Wisconsin Power Plant Impact Study. U.S. Environmental Protection Agency. EPA 600/3-80-079. 203.
- Andrews, C.B. 1979. Statement of Dr. Charles Andrews, Hydrologist, Northern Cheyenne Tribe. Hearings before the Select Committee on Indian Affairs. U.S. Senate, 96th Congress, 412-432.
- Andrews, C.B., and M.P. Anderson. 1979. Thermal Alteration of Groundwater Caused by Seepage from a Cooling Lake: *Water Resources Research*. 15, no. 3: 595-602.
- Andrews, C.B., W. Woessner, and T. Osborne. 1979. The Impacts of Coal Strip Mining on the Hydrogeologic System of the Northern Great Plains--Case Study of Potential Impacts on the Northern Cheyenne Reservation: *Journal of Hydrology*. 43: 445-467.
- Andrews, C.B. 1978. The Impact of the Use of Heat Pumps on Groundwater Temperatures: *Ground Water*. 16, no. 6: 437-443.

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Andrews, C.B., and M.P. Anderson. 1978. The Impact of a Power Plant on the Groundwater System of a Wetland: *Ground Water*. 16, no. 2: 105-111.

Andrews, C.B., and E. Quigley. 1975. Designing and Maintaining Ponds for Swimming. Extension Publication G2678. University of Wisconsin. 22.

DEPOSITION AND TESTIMONY EXPERIENCE

DEPOSITIONS

- 2012 Commissioner of the Department of Planning and Natural Resources, Alicia V. Barnes, et al. Century Alumina Company, et al. District Court of the Virgin Islands Division of St. Croix. Civil No. 2005-0062. June 28 – 29.
- 2010 United States Virgin Islands Department of Planning and Natural Resources vs. St. Croix Renaissance Group, L.L.L.P., et al. District Court of the Virgin Islands Division of St. Croix. Civil No. 2007/114. October 20.
- 2010 United States Virgin Islands Department of Planning and Natural Resources v. St. Croix Renaissance Group, L.L.L.P., et al. District Court of the Virgin Islands Division of St. Croix. Civil No. 2007/114. October 22.
- 2010 New Jersey Department of Environmental Protection, The Commissioner of the New Jersey Department of Environmental Protection and the Administrator of the New Jersey Spill Compensation Fund vs. Essex Chemical Corporation. Superior Court of New Jersey Law Division: Middlesex County. Docket No.: MID-L-5685-07. February 22.
- 2009 United States of America vs. Norfolk Southern Railway Company. U.S. District Court for the District of South Carolina, Aiken Division. Civil Action No. 1:08-CV-01707-MBS. August 5.
- 2009 Michigan Citizens for Water Conservation, et al. vs. Nestle Waters North America, Inc. State of Michigan Mecosta County Circuit Court. File No. 01-14563-CE. February 11 and March 6.
- 2008 The Gillette Company vs. Onebeacon America Insurance Company, et al. Commonwealth of Massachusetts Superior Court. 05-5102-BLS. December 4.
- 2008 Brian Wayne Meixner et al. vs. Emerson Electric Co. et. al. U.S. District Court for the District of South Carolina, Aiken Division. 06-CV-01359-MBS. April 29.
- 2007 Glenn Gates and Donna Gates v. Rohm & Haas Company, et al. U.S. District Court for the Eastern District of Pennsylvania. Civil Action No. 2:06-CV-01743-GP. November 16, 19.
- 2007 Methyl Tertiary Butyl Ether (MTBE) Products Liability Litigation, County of Suffolk and Suffolk County Water Authority vs. Amerada Hess Corporation et al., United Water New York, vs. Amerada Hess Corporation et al. U.S. District Court Southern District of New York. 04 CIV. 5424 and O4 CIV. 2389. November 27, 28.
- 2007 Kay Ryan Corley, et al. v. Colonial Pipeline Company, et al. Hale County Circuit Court, Alabama. CV-2005-138. September 6 & 7.
- 2003 American Home Products Corporation vs. Adriatic Insurance Company. Superior Court of New Jersey Law Division: Hudson County. Docket No. HUD-L-5002-92. April 29.
- 2003 H. Todd Brinckerhoff, Jr., Harriet B. Haslett and MBM Company I, LLC vs. Shell Oil Company and Motiva Enterprises, LLC. United District Court, Southern District of New York. Civil Action No. 02cv939. March 27.
- 2003 Bernice Samples et al. vs. Conoco, Inc.; Agrico Chemical Company and Escambia Treating Company, Inc. Circuit Court of the First Judicial Circuit in and for Escambia County, Florida. No. 01-631-CA-01. March 18.

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- 2002 Michigan Citizens for Water Conservation et al. vs. Nestlé Waters North America, Inc. et al. State of Michigan in the Circuit Court for the County of Mecosta. Case No. 01-14563-CE. October 14.
- 2001 JBG/JER Shady Grove, LLC vs. Eastman Kodak Company. Circuit Court for Montgomery County, Maryland. Civil No. 214877. October 25.
- 1999 Associated Aviation Underwriters, Inc. vs. Purex Industries, Inc. et al. Superior Court of the State of California for the County of Los Angeles. No. EC021744. August 9.
- 1999 Flintkote Company and Genstar Corp. vs. Liberty Mutual Insurance Company et al. Superior Court of New Jersey, Law Division, Bergen County. Docket No. 10288-97. March 26.
- 1998 GenCorp Inc. vs. Adriatic Insurance. Superior Court of New Jersey. Case No. 5:95CV 2464. September.
- 1997 C-I-L Corporation of America and Marsulex, Inc. vs. NL Industries, Inc. et al. U.S. District Court, District of New Jersey. Civil Action No. 93-2157 (WHW). January 21.
- 1995 Freehold-Carthage, Inc. vs. Lumbermans Mutual Casualty et al. vs. Hartford Insurance Company vs. Minnesota Mining and Manufacturing Company. Superior Court of New Jersey. Docket No. L-56812-90.
- 1995 Hughes Aircraft Company vs. Brian Eustace Beagley et al. Superior Court of the State of California, County of Los Angeles. No. BC062120. February 10.
- 1993 Martin Marietta Corporation vs. Aetna Casualty & Surety et al. Superior Court of the State of California for the County of Los Angeles. Case No. C610358.
- 1992 In re: Demand for Arbitration filed by Richard and Susan Ritchie and Exxon Corporation. State of New Jersey, Department of Environmental Protection. Damage Claim No. 86-54-0033. February 29.

TESTIMONY

- 2014 In the Matter of a Conditional High Capacity Well Approval for Two Potable Wells to be Located in the Town of New Chester, Adams County, Issued to New Chester Dairy, Inc. and Milk Source, Holding, LLC. Case No. DNR-13-011. State of Wisconsin Division of Hearings and Appeals. January 16 and 17.
- 2013 In the Matter of a Conditional High Capacity Well Approval for Two Potable Wells to be Located in the Town of Richfield, Adams County, Issued to Milk Source Holding, LLC. Case Nos. IH-12-03, IH-12-04, IH-12-05, and IH-12-08. State of Wisconsin Division of Hearings and Appeals. June 24, 25 and December 16 and 20.
- 2010 Branham v. Rohm & Hass Company, et al. Court of Common Pleas of Philadelphia County. October 12 - October 18.
- 2010 New Jersey vs. Essex Chemical Corporation. Superior Court of New Jersey Law Division: Middlesex County. Docket No.: MID-L-5685-07. March 19.
- 2008 Attorney General of the State of Oklahoma and Oklahoma Secretary of the Environment vs. Tyson Foods Inc. et al. U.S. District Court for the Northern District of Oklahoma. 4:05-CV-00329-TCK-SAJ. March 10.
- 2003 Michigan Citizens for Water Conservation et al. vs. Nestlé Waters North America Inc. et al. State of Michigan in the Circuit Court for the County of Mecosta. 01-14563-CE. June 6.

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- 2003 Michigan Citizens for Water Conservation et al. vs. Nestlé Waters North America Inc. et al. State of Michigan in the Circuit Court for the County of Mecosta. 01-14563-CE. May 21.
- 2003 Michigan Citizens for Water Conservation et al. vs. Nestlé Waters North America Inc. et al. State of Michigan in the Circuit Court for the County of Mecosta. 01-14563-CE. May 19.
- 2001 JBG/JER Shady Grove, LLC vs. Eastman Kodak Company. Circuit Court for Montgomery County, Maryland. Civil No. 214877. December 13.
- 1995 Anderson et al. vs. Pacific Gas and Electric Company. Superior Court of the State of California for the County of San Bernardino. Case No. BCV00300. July.
- 1995 Hughes Aircraft Company vs. Brian Eustace Beagley et al. Superior Court of the State of California, County of Los Angeles. No. BC062120.
- 1995 Anderson et al. vs. Pacific Gas and Electric Company. Superior Court of the State of California for the County of San Bernardino. Case No. BCV00300. February 13.