

STAVROS S. PAPADOPULOS

Groundwater Hydrologist

AREAS OF EXPERTISE

- Quantitative Evaluation of Groundwater Flow and Contaminant Fate and Transport
- Expert Testimony
- Planning and Evaluation of Aquifer Tests
- Water Supply Evaluations
- Design of Dewatering Systems
- Peer Review

SUMMARY OF QUALIFICATIONS

Dr. Papadopoulos is an internationally known expert on the analysis of groundwater systems. His areas of expertise include the evaluation of aquifer test data, the use of analytical and numerical models for interpreting groundwater flow and contamination problems and for resolving groundwater supply issues, assessment of groundwater flow and quality conditions at hazardous waste sites and identification of potential receptors, and the design of monitoring networks and of extraction well systems for groundwater remediation. He has served on advisory panels offering technical opinion on complex groundwater issues and has provided expert testimony in court proceedings and administrative hearings. He has planned and directed research on groundwater systems and on the development of methods for analyzing aquifer tests. He is the author and co-author of publications on well hydraulics, aquifer test methodology, groundwater resource evaluations, and subsurface waste disposal. His many contributions to groundwater science have been recognized by his induction into the National Academy of Engineering.

REPRESENTATIVE EXPERIENCE

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

- **Blue Plains Advanced Wastewater Treatment Plant, District of Columbia Water and Sewer Authority**, District of Columbia — As part of the Blue Plains Tunnel Combined Sewer Overflow (CSO) project, evaluated data from a short-term pumping test conducted in 2010, and developed a preliminary design for a dewatering system that would be needed during shaft construction. To obtain more data for the final dewatering system design, recommended the installation of a subset of proposed dewatering wells and monitoring wells, and the conduct of a seven-day pumping test. Using the data collected during this test and the subsequent two-week recovery period, developed data-based analytical models for predicting drawdowns in and in the vicinity of dewatering wells. These models were then used to develop the final design of dewatering systems that will meet the water-level requirements during various phases of shaft construction. Installation of the systems was completed in 2013, and their operation began in the Fall of 2013 with the client reporting that observed drawdowns were very close to those predicted by the models.

YEARS OF EXPERIENCE:50+

EDUCATION

- PhD**, Civil Engineering, Princeton University, Princeton, NJ, 1964
- MA**, Civil Engineering, Princeton University, Princeton, NJ, 1963
- MS**, Ground-Water Hydrology, New Mexico Institute of Mining and Technology, Socorro, NM, 1962
- BS**, Civil Engineering, Robert College, Istanbul, Turkey, 1959

REGISTRATIONS

- Professional Engineer**, District of Columbia, No. 7754

PROFESSIONAL HISTORY

- S.S. Papadopoulos & Associates, Inc.**, Founder & Senior Principal, 2001 to present. Chairman, Board of Directors, 1993–2001. President, 1979–1993
- U.S. Geological Survey**
Hydrologist, 1974–1979
Research Hydrologist, 1970–1974
- University of Illinois at Chicago Circle**
Associate Professor, 1969–1970
- Harza Engineering Company**
Head of Hydrology Dept. 1967–1969,
Groundwater Specialist, 1967
- University of Minnesota**
Associate Professor, 1966–1967
- U.S. Geological Survey**
Research Hydrologist, 1965–1966
Research Engineer, 1964–1965
Hydraulic Engineer, 1963–1964
- The U.S. Army Corps of Engineers**
Trabzon and Sinop, Turkey, Assistant Engineer, 1958 and 1959

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- **Dickson County Landfill**, Dickson, Tennessee — On behalf of the Natural Resources Defense Council (NRDC), evaluated data related to groundwater and spring contamination in the vicinity of the landfill. Prepared expert reports and assisted NRDC in preparing for litigation against Dickson County and in settlement negotiations with the County. He is currently serving as the NRDC representative on an Expert Panel formed under the terms of a Consent Order that halted the litigation process. The Panel is responsible for implementing measures that will protect groundwater users within a Panel designated Environmental Risk Area (ERA), for developing a monitoring system that will detect contaminant migration, if any, to the outside of the ERA, and for authorizing expenditures for the above purposes from a Remedy Fund established by the Consent Order.
- **Northwest Wellfield**, Miami-Dade County, Florida — On behalf of the Sierra Club and the Natural Resources Defense Council, evaluated data from tracer tests conducted in the vicinity of Miami-Dade's Northwest Wellfield and determined the properties that control the velocity of groundwater, and hence of contaminants, in the Biscayne Aquifer. Used the results of these evaluations to recalculate setback distances that are used by Miami-Dade County for regulating rock mining activities in the vicinity of the wellfield. Provided testimony on the results of these evaluations in court proceedings related to the permitting of mining activities in the area.
- **Former Coors Road Plant, Sparton Technology, Inc.**, Albuquerque, New Mexico — Provided technical assistance in developing off-site and source containment systems for a contaminant plume associated with this facility. Participated in settlement negotiations with regulatory agencies to develop work plans for the installation and testing of these containment systems and for the evaluation of aquifer restoration. Testified in court proceedings associated with the installation of the off-site containment system. Analyzed aquifer-test and water-level data to determine operating pumping rates that will establish and maintain capture zones required for containment at the off-site and source areas. Since the start of the implementation of these remedial actions in late 1998 and the entering of a Consent Order in March 2000, has been responsible for the preparation of the annual reports required under the Consent Order, the development of a groundwater flow-and-transport model for the site, and the preparation of various other reports required under the Consent Order and the site's operating permits.
- **Chem-Dyne Site**, Hamilton, Ohio — Involved in investigations and studies associated with this site for 25 years. Oversaw remedial investigations that were being conducted by regulatory agency contractors on behalf of a number of potentially responsible parties (PRPs). Directed additional investigations on behalf of the PRPs, and participated in the design of remedial actions for the site. Participated in negotiations with the regulatory agencies that led to a Consent Decree entered in October 1985. After the signing of the Consent Decree, directed the installation of the groundwater extraction system (25 extraction wells), the testing and evaluation of these wells, and the determination of their pumping rates. Until the beginning of 2008, was responsible for the evaluation of the data collected from the site, the preparation of the Annual Reports, the conduct of special investigations (including the development of groundwater flow and contaminant transport models that led to the reduction of the remedial operations), and for regulatory agency interactions that became necessary during those 25 years.
- **San Gabriel Valley Site, TRW Inc.**, Puente Valley, California — Provided technical assistance to TRW in developing a position paper on the allocation of remedial costs among potentially responsible parties (PRPs) in the Puente Valley Operable Unit of the San Gabriel Valley Site. Directed an extensive review of available reports and data to evaluate hydrogeologic conditions at more than 50 PRP sites within Puente Valley, and to develop groundwater flow-and-transport and optimization models for determining the relative contribution of each site to groundwater contamination.
- **Tyson's Dump Site, Ciba-Geigy Corporation**, Montgomery County, Pennsylvania — Provided technical assistance in remedial investigations and in the design of remedial measures at this site

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where wide-spread migration of Dense Non-Aqueous Phase Liquids (DNAPLs) occurred in fractured bedrock. Designed an extraction system to intercept contaminated groundwater discharging from shallow bedrock into the adjacent river. Directed the development of several groundwater flow models of the site to design the extraction system, assess its performance over time, and evaluate flow conditions in deeper bedrock. Formulated additional field investigations to assess the deep bedrock, evaluated data, and designed a groundwater extraction system for the deep bedrock. For several years after the installation of the deep bedrock system, directed periodic evaluations of system performance.

- **Kodak Park, Eastman Kodak Company, Rochester, New York** — Participated in a Groundwater Advisory Panel (GAP) providing technical advice to Kodak on issues related to groundwater contamination and remediation at its Rochester facilities. Directed projects involving the development of regional and local groundwater flow-and-transport models of the hydrogeologic system underlying Kodak Park, the design of interim remedial measures at several Kodak Park sections, and the conduct of Corrective Measure Studies for Kodak Park West and for the northeastern area of Kodak Park East.
- **Cyril Technical Committee, Union Texas Petroleum Energy Corporation, Cyril, Oklahoma** — Served as a Technical Representative of Union Texas on the Cyril Technical Committee of the Oklahoma Corporation Commission (OCC). The Committee conducted investigations to determine the extent and the feasibility of remediating a chloride plume caused by past oil production operations. Assisted the Committee in the selection of a consultant for field investigations, and prepared the sampling and testing protocols to be used by the consultant. He evaluated aquifer-test, streamflow, and water-quality data, and developed numerical groundwater flow and transport models for the site to assess the fate-and-transport of the chloride plume and to evaluate remedial alternatives. Served on the subcommittee preparing the Final Report and had primary responsibility for the modeling and several other appendices to the report.
- **San Fernando Valley Site, Intra-Glendale Mediation, Glendale, California** — Served as Technical Advisor to the Mediator/Arbitrator for cost allocation among PRPs at the Glendale Operable Unit of the San Fernando Valley Site. Evaluated several allocation schemes developed by PRP consultants, and advised the Mediator/Arbitrator on their technical merit. Discussed with PRP consultants the results of their investigations at their clients' facilities and the potential relative contribution of the facilities to groundwater contamination. Based on these evaluations and discussions, provided guidelines to the Mediator/Arbitrator for his mediation, and planned the technical approach to be used during the arbitration phase

U.S. Geological Survey, Water Resources Division, Reston, Virginia

- Conducted research in the analysis of groundwater systems and development of methods for analysis of aquifer test and groundwater resources.
- Served as Research Advisor to the Assistant Division Chief for Research and Technical Coordination and to his Deputy for Research.
- Investigated the energy potential of the Gulf Coast geopressured zones, water-supply potential of the Coastal Plain aquifers near Washington, DC, feasibility of aquifer thermal energy storage, and potential shallow burial sites for low-level radioactive wastes.
- Evaluated sources of additional water supply for Riyadh, Saudi Arabia, and the groundwater resources of the Setubal peninsula in Portugal.

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University of Illinois at Chicago Circle, Department of Geological Sciences, Chicago, Illinois

Taught courses in groundwater hydrology, engineering, and structural geology. Conducted research on the application of digital computer techniques to well hydraulics and aquifer evaluation studies.

Harza Engineering Company, Chicago, Illinois

Directed all aspects of planning involving groundwater resources, including preliminary and detailed exploration programs, pumping tests, resource evaluation, and aquifer protection studies. Major assignments included: Groundwater studies for the Chicago Deep Tunnel Project; reconnaissance studies to determine the groundwater development potential of the Ullum Valley in Argentina and of limestone aquifers in Northern Guatemala; formulation of groundwater exploration programs for several areas in Java and Sumatra to assess the technical feasibility of developing groundwater for irrigation and to identify pilot studies that would demonstrate the conjunctive use of surface-water and groundwater supplies for large-scale irrigation projects

University of Minnesota, Department of Geology and Geophysics, Minneapolis, Minnesota

Taught undergraduate and graduate courses in groundwater hydrology. Conducted research in well hydraulics and aquifer evaluation methods.

U.S. Geological Survey, Water Resources Division, Arlington, Virginia

Conducted research of the mechanics of groundwater flow. Served as consultant to other USGS offices on special problems such as developing seepage estimates for Cedar Lake in Washington; analyzing limited data from pumping tests in Puerto Rico, Virgin Islands, North Carolina and Florida; and evaluating tracer test data in Colorado.

LANGUAGES

French, Greek, Turkish, knowledge of Spanish

AWARDS & HONORS

Fellow, American Society of Civil Engineers (ASCE), elected Fellow of the ASCE on April 13, 2010.

Diplomate, Water Resources Engineer (D.WRE), certified as D.WRE by the American Academy of Water Resources Engineers, January 13, 2010.

National Academy of Engineering, elected to membership on February 6, 2009 *“[f]or pioneering contributions to statistical methods for estimating groundwater flow and contaminant transport.”*

National Ground Water Association 2008 Life Member Award, in recognition of special service in the ground water industry or to NGWA, presented at the NGWA Ground Water Expo and Annual Meeting, Las Vegas, Nevada, December 4, 2008.

New Mexico Institute of Mining and Technology Alumni Association’s Distinguished Achievement Award, “in recognition of outstanding achievement, leadership, and creative contribution in occupation and profession,” May 9, 1998.

Actuary Archon of the Ecumenical Patriarchate of Constantinople; honorary title conferred by His All Holiness Bartholomew I, Ecumenical Patriarch of the Orthodox Church, Istanbul, Turkey, October 15, 1995.

Fellow, Geological Society of America, elected to be a Fellow of the Society on May 7, 1993.

Medal of the City of Montpellier, awarded in recognition of contributions to hydrogeology at the International Symposium on the Implications of Hydrogeology on Earth Sciences, Montpellier, France, September 11-16, 1978

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U.S. Geological Survey Special Achievement Award, In recognition of service as Team Leader in the evaluation of alternative sources of water supply for Riyadh, Saudi Arabia, under the aegis of the U.S. – Saudi Arabian Commission for Joint Economic Cooperation, September 1977

U.S. Department of Interior Meritorious Service Award, “in recognition of his outstanding contributions to the Geological Survey in the field of ground-water hydrologic research,” May 1977.

PROFESSIONAL SOCIETIES

American Society of Civil Engineers (Life Member since January 2001, Fellow since April 2010)

American Geophysical Union (Life Member since December 2013)

Association of Ground Water Scientists and Engineers (Life Member since December 2008)

International Association of Hydrogeologists

Geological Society of America (Fellow since May 1993)

Sigma Xi

APPOINTMENTS

2013-2016 Member of the Peer Committee for the review, ranking, and selection of membership nominees for Section 11—Earth Resources Engineering of the National Academy of Engineering.

2001: Member of the Groundwater Protection Strategy Work Group, Montgomery County, Maryland.

1993–1995: Member of Committee for the O.E. Meinzer Award, Geological Society of America, Hydrogeology Division.

1991–1994: Member of Water Science & Technology Board, National Research Council.

1988–1992: Member of Advisory Council to School of Engineering and Applied Science, Princeton University.

1984–1992: Chairman of Advisory Council to Department of Civil Engineering and Operations Research, Princeton University.

1988–1989: Member of Commission on Engineering and Technical Systems, Geotechnical Board, National Research Council.

1981–1984: Member of U.S. National Committee, International Association of Hydrogeologists.

1975–1981: Member of Committee on Ground-Water Hydrology, Hydraulic Division, American Society of Civil Engineers.

PUBLICATIONS

Papadopoulos, S.S., 2013. Mahdi Salih Hantush 1921–1984: The Master of Well Hydraulics. Presentation at the 125th Annual Meeting & Exposition of the Geological Society of America, Denver, CO, October 27-30. *in Abstracts with Programs*, v. 45, no. 7, p. 193. ISSN 0016-7592: Geological Society of America, Boulder, CO.

Papadopoulos, S.S., H.A. Cohen, and P. Khambhammettu, 2013. A Semi-Empirical Analytical Model for Designing an Aquifer Depressurization System. Presentation at the 125th Annual Meeting & Exposition of the Geological Society of America, Denver, CO, October 27–30. *in Abstracts with Programs*, v. 45, no. 7, p. 397. ISSN 0016-7592: Geological Society of America, Boulder, CO.

Papadopoulos, S.S., and S.P. Larson, 2007. The Drawdown Distribution in and around a Well Pumping from a Two-Region Aquifer. Presentation at the 119th Annual Meeting of the Geological Society of America, Denver, CO, October 27-31. *in Abstracts with Programs*, v. 39, no. 6. p. 189. Geological Society of America, Boulder, CO.

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- Papadopoulos, S.S., J.W. Houlihan, G.D. Bennett, and G.V. Costanzo, 1997. Evaluation of Hydrogeologic Conditions and of Remedial Alternatives at Kodak Park, Rochester, New York. Presentation at the American Society of Civil Engineers (ASCE), Aesthetics in the Constructed Environment. *in Proceedings of the 24th Annual Water Resources Planning and Management Conference*, Houston, TX, April 6-9. pp. 370-375.
- Papadopoulos, S.S., 1992. Performance of a Plume Removal System in a Sand and Gravel Aquifer. Abstract in Program, Aquifer Restoration: Pump-and-Treat and the Alternatives, National Ground Water Association, 44th Annual Convention and Exposition, Las Vegas, NV, September 30-October 2.
- Papadopoulos, S.S., and L.A. Wood, 1991. Progress in Remediating a Sand and Gravel Aquifer. Geological Society of America Annual Meeting, October 21-24, San Diego, CA. *in Abstracts with Programs*, Geological Society of America, Boulder, CO. A187.
- Andrews, C.B., D.L. Hathaway, and S.S. Papadopoulos, 1990. Modeling the Migration and Fate of Polychlorinated Biphenyls in the Subsurface. *in Proceedings of the PCB Forum*, Second International Conference for the Remediation of PCB Contamination, Houston, TX, April 2-3, pp. 64-82.
- Konikow, L.F., and S.S. Papadopoulos, 1988. Scientific Problems. *in Hydrogeology, The Geology of North America*. Back, W., J.S. Rosenshein, and P.R. Seaber, eds.: v. O-2, Chap. 49, pp. 503-508. Geological Society of America, Boulder, CO.
- Harris, R.H., J.V. Rodricks, C.S. Clark, and S.S. Papadopoulos, 1987. Adverse Health Effects at a Tennessee Hazardous Waste Disposal Site. Presentation at the Fourth Annual Symposium on Environmental Epidemiology, University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA, May 1983. *in Health Effects from Hazardous Waste Sites*, Andelman, J.B., and D.W. Underhill, eds. Lewis Publishers. pp. 221-240.
- Bredehoeft, J.D., S.S. Papadopoulos, and H.H. Cooper Jr., 1982. Groundwater: The Water-Budget Myth. *in Scientific Basis of Water-Resource Management, Studies in Geophysics*. National Research Council. Geophysics Study Committee, ed. Washington, DC: National Academy Press. p. 51.
- Kelly, J.E., S.S. Papadopoulos, W.L. Burnham, and K.E. Anderson, 1981. The Evolution of a Double-Transmissivity Concept for the Madison Aquifer System. Abstract. *in Proceedings of the 10th Annual Rocky Mountain Ground-Water Conference*, April 30- May 2, Laramie, WY. pp. 74-75.
- Larson, S.P., S.S. Papadopoulos, and J.E. Kelly, 1981. Simulation Analysis of a Double-Transmissivity Concept for the Madison Aquifer System. Abstract. *in Proceedings of the 10th Annual Rocky Mountain Ground-Water Conference*, Laramie, WY, April 30-May 2. p. 76.
- Bredehoeft, J.D., and S.S. Papadopoulos, 1980. A Method for Determining the Hydraulic Properties of Tight Formations. *Water Resources Research*, v.16, no. 4, pp. 242-248.
- Papadopoulos, S.S., and S.P. Larson, 1978. Aquifer Storage of Heated Water: Part II - Numerical Simulation of Field Results. *Ground Water*, v.16, no. 4, pp. 242-248.
- Papadopoulos, S.S., 1977. Predictive Modeling in Hydrogeology--A Brief Review. Presentation at the 1977 Annual Meetings of the Geological Society of America and of related Societies, Seattle, WA, November 7-9. Geological Society of America, Boulder, CO: *Abstracts with Programs*, v. 9, no. 7, p. 1124.
- Larson, S.P., S.S. Papadopoulos, H.H. Cooper Jr., and W.L. Burnham, 1977. Simulation of Wastewater Injection into a Coastal Aquifer System near Kahului, Maui, Hawaii. Presentation at the American Society of Civil Engineers' (ASCE) 25th Annual Hydraulic Division Specialty Conference on the Hydraulics in the Coastal Zone, Texas A&M University, College Station, TX, August 10-12. *in Proceedings - Hydraulics Division Specialty Conference*, 25, pp.107-116.

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- Larson, S.P., T. Maddock III, and S.S. Papadopoulos, 1977. Optimization Techniques Applied to Ground-Water Development. Congress of the International Association of Hydrogeologists, Birmingham, England, July 24-30. *in Memoires*, 13, Part 1, pp. E57–E66.
- Papadopoulos, S.S., 1976. Flow to Water-Table Wells Deriving their Discharge from Capture (abstract). *in Advances in Ground-Water Hydrology*. Saleem, Z.A., ed. American Water Resources Association, Minneapolis, MN. p. 329.
- Papadopoulos, S.S., 1975. The Energy Potential of Geopressed Reservoirs: Hydrogeologic Factors. *in Proceedings of the First Geopressed Geothermal Energy Conference*, University of Texas, Austin, Texas, June 2-4. pp. 173-192.
- Papadopoulos, S.S., R.H. Wallace Jr., J.B. Wesselman, and R.E. Taylor, 1975. Assessment of Onshore Geopressed-Geothermal Resources in the Northern Gulf of Mexico Basin. *in Assessment of Geothermal Resources of the United States—1975*. U.S. Geological Survey. Circular 726, pp. 125-146.
- Papadopoulos, S.S., and I.J. Winograd, 1974. Storage of Low-Level Radioactive Wastes in the Ground: Hydrogeologic and Hydrochemical Factors with an appendix on The Maxey Flats, Kentucky, Radioactive Waste Storage Site: Current Knowledge and Data Needs for a Quantitative Hydrogeologic Evaluation. EPA 520/3-74-009. U.S. Environmental Protection Agency. 49.
- Papadopoulos, S.S., R.R. Bennett, F.K. Mack, and P.C. Trescott, 1974. Water from the Coastal Plain Aquifers in the Washington, DC, Metropolitan Area. U.S. Geological Survey, Circular 697. 11.
- Wolff, R.G., and S.S. Papadopoulos, 1973. Reply to T.L. Holzer's "Comments on 'Determination of the Hydraulic Diffusivity of a Heterogeneous Confining Bed' by Roger G. Wolff and Stavros S. Papadopoulos. *Water Resources Research*, v. 9, no. 4, p.1106.
- Papadopoulos, S.S., J.D. Bredehoeft, and H.H. Cooper Jr., 1973. On the Analysis of 'Slug Test' Data. *Water Resources Research*, v. 9, no. 4, pp. 1087-1089.
- Pinder, G.F., E.O. Frind, and S.S. Papadopoulos, 1973. Functional Coefficients in the Analysis of Groundwater Flow. *Water Resources Research*, v. 9, no. 1, pp.222-226.
- Wolff, R.G., and S.S. Papadopoulos, 1972. Determination of the Hydraulic Diffusivity of a Heterogeneous Confining Bed. *Water Resources Research*, v. 8, no. 4, pp.1051-1058.
- Papadopoulos, I.S., W.R. Larsen, and F.C. Neil, 1969. Ground-Water Studies – Chicagoland Deep Tunnel System. *Ground Water*, v. 7, no. 5, pp. 2-15.
- Papadopoulos, I.S., and R.E. Aten, 1968. Investigation Program for Aquifer Protection Requirements, Chicagoland Deep Tunnel Pla. *Ground Water*, v. 6, no. 3, pp. 4-9.
- Papadopoulos, I.S., and H.H. Cooper Jr., 1968. Reply to T.N. Narasimhan's "On the Paper Entitled 'Drawdown in a Well of Large Diameter', by I.S. Papadopoulos and H.H. Cooper, Jr." *Water Resources Research*, v. 4, no. 2, p. 461.
- Papadopoulos, I.S., 1967. Drawdown Distribution Around a Large-Diameter Well. *in Proceedings of the National Symposium on Ground-Water Hydrology*, Sponsored by the American Water Resources Association, San Francisco, CA, November 6-8: pp. 157-168.
- Cooper Jr., H.H., J.D. Bredehoeft, and I.S. Papadopoulos, 1967. Response of a Finite-Diameter Well to an Instantaneous Charge of Water. *Water Resources Research*, v. 3, no. 1, pp. 263-269.
- Papadopoulos, I.S., and H.H. Cooper Jr., 1967. Drawdown in a Well of Large Diameter. *Water Resources Research*, v. 3, no. 1, pp. 241-244.
- Bredehoeft, J.D., H.H. Cooper Jr., and I.S. Papadopoulos, 1966. Inertial and Storage Effects in Well-Aquifer Systems: An Analog Investigation, *Water Resources Research*, v. 2, no. 4, pp. 697-707.
- Papadopoulos, I.S., 1966. Nonsteady Flow to Multiaquifer Wells. *Journal of Geophysical Research*, v. 71, no. 20, pp. 4791-4797.

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- Stallman, R.W., and I.S. Papadopoulos, 1966. *Measurement of Hydraulic Diffusivity of Wedge-Shaped Aquifers Drained by Streams*. Professional Paper 514. U.S. Geological Survey. 50.
- Bredehoeft, J.D., H.H. Cooper Jr., and I.S. Papadopoulos, 1965. Inertial Effects in Well-Aquifer Systems: An Analog Study. Presentation at the Geological Society of America Annual Meeting, November 4-6, Kansas City, MO. *Abstracts with Programs*, Geological Society of America, Boulder, CO, pp. 16-17.
- Papadopoulos, I.S., 1965. Nonsteady Flow to a Well in an Infinite Anisotropic Aquifer. *Proceedings of the International Symposium on Hydrology of Fractured Rocks*, International Association of Scientific Hydrology, Dubrovnik, Yugoslavia. v.1, pp. 21-31.
- Bredehoeft, J.D., I.S. Papadopoulos, and J.W. Stewart, 1965. Hydrologic Effects of Ground-Water Pumping in Northwest Hillsborough County, Florida. U.S. Geological Survey, Open-File Report. 23.
- Cooper Jr., H.H., J.D. Bredehoeft, I.S. Papadopoulos, and R.R. Bennett, 1965. The Response of Well-Aquifer Systems to Seismic Waves. *Journal of Geophysics*, v. 70, no. 16, pp. 3915-3926. Also reprinted in: *The Great Alaska Earthquake of 1964*. National Academy of Sciences, 1968. Publication 1603, Part A. pp. 122-132.
- Bredehoeft, J.D., H.H. Cooper Jr., I.S. Papadopoulos, and R.R. Bennett, 1965. Seismic Fluctuations in an Open Artesian Water Well. U.S. Geological Survey, Professional Paper 525, pp. C51-C57.
- Bredehoeft, J.D., and I.S. Papadopoulos, 1965. Rates of Vertical Groundwater Movement Estimated from the Earth's Thermal Profile. *Water Resources Research*, v. 1, no. 2, pp. 325-328.
- Papadopoulos, I.S., 1963. Preparation of Type Curves for Calculating T/S of a Wedge-Shaped Aquifer. U.S. Geological Survey. Professional Paper 475-B, Article 54, pp. B196-B198.
- Hantush, M.S., and I.S. Papadopoulos, 1963. Flow of Ground Water to Collector Wells (Closure). Proceedings of the American Society of Civil Engineers. *Journal of the Hydraulics Division*. HY4, pp. 225-227.
- Hantush, M.S., and I.S. Papadopoulos, 1962. Flow of Ground Water to Collector Wells. Proceedings of the American Society of Civil Engineers. *Journal of the Hydraulics Division*, HY5, pp. 221-224.

DEPOSITION AND TESTIMONY EXPERIENCE

DEPOSITIONS

- 2010 Natural Resources Defense Council, Inc., Beatrice Holt, and Sheila Holt-Orsted vs. County of Dickson, Tennessee, City of Dickson, Tennessee, Alp Lighting and Ceiling Products, Inc., Nematik USA, Inc., and Interstate Packaging Company. U.S. District Court for the Middle District of Tennessee. No. 3:08-cv-00229. September 23-24.
- 2006 Emerson Electric Co. et al vs. Aetna Casualty and Surety Company et al. Circuit Court of Cook County, Illinois. Case No. 93 CH 2566. June 8.
- 2006 Sierra Club et al. vs. Robert B. Flowers et al. and Miami-Dade Limestone Products Association, Inc. et al., Intervening Defendants. U.S. District Court, Southern District of Florida. Case No. 03-23427-CIV-Hoeveler. June 2.
- 2002 Entergy Arkansas, Inc., an Arkansas Corporation et al. vs. State of Nebraska et al. U.S. District Court for the District of Nebraska. Case No. 4: 98CV-3411. March 18.
- 2001 Emerson Electric Co. et al. vs. Aetna Casualty & Surety Company et al. Circuit Court of Cook County, Illinois. Case No. 93 CH 2566. July 11.
- 1998 Ciba-Geigy Corporation vs. Liberty Mutual Insurance Company et al. Superior Court of New Jersey, Law Division: Union County. Civil Action, Docket 1-97515-87. September 1.

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- 1997 Emerson Electric Co., Alco Controls Division vs. Cook & Co., a Georgia Limited Partnership, and Claude P. Cook Sr. U.S. District Court for the Southern District of Georgia, Brunswick Division. Civil Action No. 296-131. May 29.
- 1997 Emerson Electric Co., Alco Controls Division vs. Cook & Co., a Georgia Limited Partnership, and Claude P. Cook Sr. U.S. District Court for the Southern District of Georgia, Brunswick Division. Civil Action No. 296-131. March 21 and 29.
- 1996 AM International Inc. vs. Commercial Union Insurance Company, The Home Insurance Company, Appalachian Insurance Company, and Affiliated FM Insurance Company. Circuit Court of Cook County, Illinois, County Department -- Chancery Division. Case No. 89 CH 11602. Apr. 26 and May 3.
- 1994 Rockwell International Corporation vs. Aetna Casualty and Surety Company et al., Hardage and Does I 200. Superior Court of the State of California for the County of Los Angeles. Case No. BC 050767. July 28-29.
- 1990 United States of America vs. Royal N. Hardage et al., Advance Chemical Company et al. vs. Abco, Inc. et al. vs. A.C. Powell, d/b/a Powell Sanitation et al. U.S. District Court, Western District of Oklahoma. Case No. CIV-86-1401-W. September 6-7.
- 1989 United States of America vs. Royal N. Hardage et al. vs. Advance Chemical Company et al. vs. Abco, Inc. et al. U.S. District Court, Western District of Oklahoma. Case No. CIV-86-1401-P. November 6.
- 1988 United States of America vs. Royal N. Hardage et al. vs. Advance Chemical Company et al. vs. Abco, Inc. et al. U.S. District Court, Western District of Oklahoma. Case No. CIV-86-1401-P. November 29.
- 1988 United States of America vs. Royal N. Hardage et al. vs. Advance Chemical Company et al. vs. Abco, Inc. et al. U.S. District Court, Western District of Oklahoma. Case No. CIV-86-1401-P. July 5-6.

TESTIMONY

- 2006 Emerson Electric Co. et al vs. Aetna Casualty and Surety Company et al. Circuit Court of Cook County. Illinois. Case No. 05 L 2929. July 12-13.
- 2006 Sierra Club et al. vs. Robert B. Flowers et al. and Miami-Dade Limestone Products Association, Inc. et al. Intervening Defendants. U.S. District Court, Southern District of Florida. Case No. 03-23427-CIV-WMH. June 14.
- 1998 The City of Albuquerque, a Municipal Corporation, and The Board of County Commissioners of the County of Bernalillo vs. Sparton Technology, Inc. U.S. District Court for the District of New Mexico. Cause No. CIV. 97-206 LH. March 17-18.
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