

Weldon Woolf Hammond, Jr.

Professional Summary

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BUSINESS ADDRESS: The University of Texas at San Antonio
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EDUCATION:

- Ph.D., 1984, Geology, University of Texas at Austin
- MA, 1969, Geology, University of Texas at Austin. Minor in Civil Engineering.
- BA 1960, Geology, minor in Mathematics, University of Texas at Austin.

EXPERIENCE:

The University of Texas at San Antonio, August 1976 to present

- Amy and V. H. McNutt Endowed Distinguished Professorship in Geology 1999 to present
- Director, Institute for Research in Water and Environmental Resources,
April 2002 1986 to August 2004
- Director, Center for Water Research, September 1986 to present.
- Chairman, Department of Earth and Environmental Science Sciences
September 2001 to December 2002.
- Director, Division of Earth and Physical Sciences
September 2000 to August 2001 (Departmental Chairman for Chemistry, Environmental Science,
Geology and Physics)
- Interim Dean, College of Sciences and Engineering, July 1999 to September 2000
- Director, Division of Earth and Physical Sciences
September 1993 to August 1999 (.Departmental Chairman for Chemistry, Environmental Science,
Geology and Physics).

- Associate Professor of Hydrogeology and Engineering Geology, Division of Earth and Physical Sciences, College of Sciences and Engineering, September, 1985 to present.
- Assistant Professor of Geology, Division of Earth and Physical Sciences, College of Sciences and Mathematics, August 1984 to August 1985
- Consulting Geologist, 1970 to present. Ground-water exploration, ground-water management problems, recharge enhancement studies, solid waste site location, water flood projects, mineral exploration and development (oil, gas, uranium and gravel).
- Texas Water Development Board, Austin, Texas, March 1965 to February 1969.
District Supervisor, San Antonio District, June 1967 to February 1969.

PROFESSIONAL ORGANIZATIONS:

- The Geological Society of America
- The Society of the Sigma Xi (Honorary Scientific)
- Sigma Gamma Epsilon (Honorary Geologic)
- Phi Kappa Phi (Honorary Academic)
- The American Institute of Professional Geologists Certified Professional Geologist No. 2337
- Association of Engineering Geologists
- Association of Ground Water Scientists and Engineers
- International Association of Hydrogeologists
- American Association for the Advancement of Science
- Registered Professional Geologist, License Number 73, State of Texas

COMMITTEES

San Antonio Water System (SAWS) Citizen's Advisory Panel

SAWS Blue Ribbon Panel on Recycled Water Usage

City of San Antonio Scientific Evaluation Team for Acquisition of Land over the Edwards Recharge Zone

Mayor of San Antonio's Select Panel on Water Quality over the Edwards Recharge Zone

Texas Senate Special Committee on Water Quality and the Edwards Aquifer

Texas Development Board's Statewide Ground Water Modeling Committee

Edwards Aquifer Authority Special Committee on Water Quality

San Antonio River Foundation, Board of Directors

San Antonio River Foundation, Chairman, Environmental Committee,

I have also served as a reviewer for the National Science Foundation, (Hydrology Section) and for the Association of Engineering Geologists.

PUBLICATIONS:

Abstracts and Presentations

- Hammond, W.W., 1989, Permeable Faults: Coupled Underflow between two structurally juxtaposed aquifers in northern Bexar County, Texas, (abstract), Geological Society of America, South Central section.
- Hammond, W. W., 1989, "The Edwards Aquifer, Hydrology, Geology and Institutional Constraints", (abstract), 1989, American Geophysical Union, Annual Meeting.
- Hammond, W. W., 1995, "Enhanced Recharge and Karst, Edwards Aquifer, South-Central Texas", (abstract), 1993, Geological Society of America, South Central section.
- Sarkar, D., Manz, L., Hammond, W. W., 2001, The Status of Water Resources and Water Quality along the Rio Grande in Texas, (abstract), American Chemical Society, Southwest Regional meeting.
- Sarkar, Dibyendu, Manz, Louis, Hammond, W. W., 2001, The Status of Water Resources and Water Quality along the Rio Grande in Texas, (abstract), American Chemical Society, Southwest Regional meeting.
- Hammond, W. W., 2002, Relationship for the Lower Glen Rose Aquifer and Recharge potential (abstract) Ground Water Summit, National Ground Water Association, San Antonio
- Hardberger, Amy and Hammond W.W., 2005, Quantification of a Precipitation to Recharge Relationship for the Lower Glen Rose Aquifer (abstract) Ground Water Summit, National Ground Water Association, San Antonio
- Miller, E. G., Hammond, W. W., Pearce, P.C. and Schultz, A.L., 2005, Edwards Aquifer Recharge Zone Limits Redefined, Bexar County Texas (abstract) Ground Water Summit, National Ground Water Association, San Antonio
- Manz, L. R. and Hammond W.W., 2005, Development of Ground Water Resources in the El Paraiso District of Honduras (abstract) Ground Water Summit, National Ground Water Association, San Antonio
- Hammond, W. W., 2005, A GIS Model for Assessing Recharge Potential, (abstract), ERSI Conference.
- Miller, E. G., Hammond, W. W., Pearce, P.C. and Schultz, A.L., 2005, Edwards Aquifer Recharge Zone Limits Redefined, Bexar County Texas (abstract) Ground Water Summit, National Ground Water Association, San Antonio
- Manz, L. R. and Hammond W.W., 2005, Development of Ground Water Resources in the El Paraiso District of Honduras (abstract) Ground Water Summit, National Ground Water Association, San Antonio
- Hammond, W. W., Acequias to ASR, 2006, A history of water resources in the San Antonio region, 2006 Annual Meeting, American Water Works Association, San Antonio, TX
- Hammond, W. W. and Manz, L.R., 2007, Insuring Sustainable Water Resources in Developing Areas by Involving and Training the Receiving People, American Water Resources Association, 2007 Annual meeting, Albuquerque, NM

- Hammond Jr., Weldon W., Manz, Louis R, and Andino, Omar Cruz, 2009, Determination of Groundwater Resource Inputs for a Decision Support System for Sustainable Water Resources in Rural Honduras, abstract accepted, paper to be presented at 2010 Congress, International Association for Engineering Geology and the Environment Congress 2010, Auckland, New Zealand

PEER REVIEWED PUBLICATIONS

- Hammond, W.W., 1969, "Ground Water Resources of Matagorda County, Texas", Texas Water Development Board , Report 91, 249 p.
- Hammond, W. W., 1972, "Water Resources of the Metropolitan San Antonio Region", 1972, Bull. South Texas Geol. Soc., Vol. XIII, NO. 2.
- Hammond, W. W., 1986,"Regional Hydrogeology of the Edwards Aquifer, South Central Texas", in Issues in Groundwater Management, Water Resources Symposium Number Twelve, 1986 eds. E.T. Smerdon and W.R. Jordan, Center for Research in Water Resources, The University of Texas at Austin, pp.53-68.
- Hammond, W.W., 1986 "Regional Hydrogeology and Water Resources Planning - an overview of the Edwards Aquifer", 1986, in Hydrogeology of the Edwards Aquifer, Geological Society of America, p. 1-26.
- "The Role of Edwards Aquifer Models and Databases in Decision Support", in proceedings, Texas Section, American Institute of Hydrology, 1993, 13 p.
- "Hydrogeology of the Edwards Aquifer," American Society of Civil Engineers, First International Conference on Water Resources Engineering in Proceedings, Texas Water 95, 1995, p. 7-19. (Invited Paper)
- Sarkar, Dibyendu, Manz, Louis, and Hammond, W. W., 2005, Water Resources and Water Quality in the Rio Grande Valley in Texas: Current Status and Future Projections, Environmental Geoscience, v. 12, no. 3, pp. 195- 206
- Manz, L. R. and Hammond, W. W., 2007, The Challenge for Water Resources in Honduras, 2007, Bulletin of the South Texas Geological Society.

Conference, paper selected and published in the conference proceedings.

- Miller, E. G., Hammond, W. W., Pearce, P.C. and Schultz, A.L., 2005, Edwards Aquifer Recharge Zone Limits Redefined, Bexar County Texas, Ground Water Summit, National Ground Water Association, San Antonio, reprinted in the Bulletin South Texas Geological Society
- Murray, Kyle, Straud, David and Hammond, W. W., 2007, Characterizing Ground Water Flow in a Fractured Karst System Using Optical Brighteners from Septic Systems as Tracers, Environmental Geology, p.12
- Hammond, W.W., Manz, L.R.F. Green, R. T., and Andino Cruz, O.A.,2008, Watershed Characterization for a Water Resources Decision Support System in Honduras, In Proceedings, 21st

Annual Meeting, Society of Environmental and Engineering Geophysicists, Symposium on the Application of Geophysics to Environmental and Engineering Problems, Philadelphia, Pa

REPORTS

- Hydrogeologic Evaluation of the Valdina Farms Cave for Enhanced Recharge to the Edwards Aquifer, 1980, for Edwards Underground Water District, 20 p.
- Technical Factors in Edwards Aquifer Use and Management, 1990, Technical Advisory Panel, Special Committee on the Edwards Aquifer. Texas Senate and House of Representatives, 57 p.
- Enhanced Recharge for the Edwards Aquifer, 1991, Committee Report to 72nd Legislature, Special Committee on the Edwards Aquifer, Texas Senate and House of Representatives, 5 p.
- Masch, F.D, Gimon, D., and Hammond, W.W., 1991 Evaluation of Leak Detection Capabilities of the Automatic Tank Management System, RTM-1, Center for Ground-water Research and Technology, UTSA, for Remote Operating Systems, 98 p.
- Hammond, W.W., Masch, F.D., and Blaney, G.W., 1992, "Ground-Water Contamination and Migration" in Risk Assessment of Using Hazardous Waste Derived Fuel in the Balcones Cement Plant, Southwest Research Institute.
- "Regional Water Supply management - Decision Support Tools for the San Antonio Region," (with F.D. Masch, et.al). Technical Report to the General Managers Oversight Panel, Center for Water Research, The University of Texas at San Antonio, San Antonio, Texas, June, 1993, 197 pgs.
- "Evaluation of Leak Detection Capabilities of the Automatic Tank Management System RTM-1, -- Automatic Tank Gauging and Volumetric Tank Tightness," (with F.D. Masch, et. al). Report to Texas Water Commission for Remote Operating Systems of San Antonio, TX, Center for Water Research, The University of Texas at San Antonio, March 1991, 62 p.
- Masch, F. D., Armstrong, A. W., and Hammond, W. W., 1995, "UTSA Decision Support System for the Edwards Aquifer," final project report for the San Antonio Water System and the Guadalupe Blanco River Authority, 108 p.
- Hammond, W. W., Masch, F.D., and Kitchens, L.M., 1997, "Preliminary Assessment of Geographic Information Systems Capabilities, Well Data Systems, and Pumping Analyses in Kendall County, Texas" Final Report to the Commissioner's Court, Kendall County, Texas, Center for Waster Research, The University of Texas at San Antonio, 93 p.

FIELD TRIP GUIDEBOOKS

- Hammond, W. W., 1986, "The Valdina Farms Cave", in Physical Aspects of the Edwards Aquifer, South Texas Geological Society Field Guide, p. 6-9.
- Hammond, W. W., Longley, Glenn, Pavlicek and Ozuna, G.B., 1986, Hydrogeology of the Edwards Aquifer, Geological Society of America, Annual Meeting, San Antonio, TX
- Miller, E. G., Hammond, W.W., and Neathery, J. S., 1996, The Golf of Bexar, South Texas Geological Society, San Antonio, TX

- Miller, E. G., and Hammond, W.W., 1997, The Dam Geology of Bexar County, South Texas Geological Society, San Antonio, TX
- Hammond, W.W., 2007, Hydrogeology and Engineering Geology of Selected Golf Courses,, Bexar County Texas, Society of Exploration Geophysicists, Annual Meeting, San Antonio

PAPERS IN PREPARATION

Miller, E. E., Hammond, W.W. and Neathery, Engineering Geology of the San Antonio Texas region, an invited paper to be submitted to the Association of Engineering Geologists Bulletin.

Otero, C. and Hammond, W, Geochemical evidence for cross formational flow in the Edwards Trinity aquifers, south Central Texas

Hammond, W. W. and Jones, J.L., Nitrate sources in shallow ground water, Leona Aquifer, Medina County, Texas

Hammond, W. W., Comparison of Darcian velocities and velocities determined from radiometric isotopes, Glen Rose Aquifer, south Central Texas

FUNDING

I negotiated over a two-year period and the Center was awarded a 5-year, \$100,000 per year research agreement with the San Antonio Water system in 2003. This agreement established the Center as one of SAW's primary research institutions, a title that was heretofore carried by Texas A & M and UT Austin. We have started work on some \$160,000 in contract-funded research this year. I was the co-author on the \$30,000 modeling study with Dr. Dutton. This agreement was extended in 2008 by SAWS and UTSA for an additional 5 years

I was successful in negotiations with the Texas Legislature in obtaining the Center a line item in the state of Texas budget. This budget started out at \$150,000 per year. Since that time, we have received over \$750,000 from the state. All of this money has gone to the Center to support graduate students, equipment purchases and other items that greatly assisted the research efforts of the Center, its students and faculty associates in solving problems related to water resources of Texas. To date the Center has funded over 45 graduate students working for a number of faculty members in the Colleges of Sciences and Engineering.

Received \$30,000 grant as Co-PI with Dr, Louis R. Manz from Desert Glory for water resources research in Jalisco, Mexico, 2008

Total amount of expenditures for students and research has been \$1,045,231.

OTHER GRANTS

Total amount \$569,934 (NSF, TWDB, etc,

Total Funding Obtained \$1, 585, 165

UNIVERSITY AWARDS

President's Distinguished Service Award for Community Service 2008

College of Science Award for Excellence in Community Service 2008