

October 1, 2009

To: Dr. Robert Gulley

From: EARIP Science Subcommittee

Subject: Replacement of Alan Dutton on EARIP Expert Science Subcommittee

This memo is in regards to recommending a replacement for Alan Dutton on the EARIP Expert Science Subcommittee. As you are aware, due to work commitments, Alan Dutton (hydrologist) has been unable to attend any of the subcommittee meetings this year and has resigned from the subcommittee. This leaves the subcommittee with an even number of members. We are aware, however, that there are statute requirements to maintain an odd number of subcommittee members. As such, the subcommittee members recommend that Shirley Wade be added as a member of the subcommittee. Shirley is not only an experienced groundwater modeler, but she has attended nearly every subcommittee meeting this year and has provided the subcommittee with analyses and summaries of model simulation results performed by the Edwards Aquifer Authority for the subcommittee. She would be a valuable addition to the SSC, and her addition would be a smooth transition.

Thank you for your consideration in regards to this matter.

Sincerely,



Robert E. Mace
Chairman, EARIP Science Subcommittee

Attachments: Shirley Wade Resume
Shirley Wade Bio

Shirley C. Wade

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Employment:

- 2002 – present **Texas Water Development Board, Austin, TX**
Hydrogeologist with the groundwater availability modeling section
- Running groundwater availability models to help groundwater management areas develop desired future conditions for their aquifers.
 - Developing conceptual model and numerical model for groundwater flow in Presidio and Redford Bolson Aquifers in Far West Texas.
 - Conducted two studies using a groundwater model of the Edwards Aquifer (GWSIM-IV) to evaluate the effects of proposed management strategies on Edwards Aquifer springflows.
 - Respond to requests for information from the public and provide internal and external technical support for using groundwater availability models.
 - Respond to legislative requests for groundwater information.
 - Contract manager for contract to update Carrizo-Wilcox Aquifer groundwater availability models with Queen City –Sparta Aquifers.
 - Currently contract manager for contract to refine groundwater availability model of Seymour aquifer in Haskell, Knox, and Baylor counties.
- 1998 – 2002 **Purdue University, Dept. of Earth and Atmospheric Sciences, West Lafayette, IN**
Graduate Research Fellow
- Research project involved linking tritium data with well logs in a GIS and using a mixing model along with the historic tritium precipitation record to estimate groundwater ages. The tritium data and estimated groundwater ages were compared with hydrogeology to determine possible recharge mechanisms for aquifers.
- 1993 – 1998 **HydroGeoLogic, Inc., Herndon, VA.**
Hydrogeologist
- Constructed and implemented groundwater flow and contaminant transport models and prepared project reports.
 - Served as task manager on several groundwater modeling projects.
 - Reviewed data, and made recommendations regarding development of conceptual models for environmental risk assessments.
 - Performed groundwater transport modeling for environmental risk assessments and prepared documentation.
 - Took part in a remedial investigation to locate and characterize the contents of underground storage tanks (UST's) at a former ordnance works. Tasks included conducting electromagnetic geophysical surveys to locate UST's, sampling UST's and AST's (above ground storage tanks) and preparing a report of the investigation.
- 1991 – 1993 **New Mexico Bureau of Mines and Mineral Resources, Socorro, NM.**
Graduate Research Assistant
- Principal researcher for a groundwater flow heat transport study.

1988 – 1990 **University of Wyoming, Laramie, WY.**
Graduate Teaching Assistant
• Instructed undergraduate physical geology labs.

1988 **Western Geophysical, Bakersfield, CA.**
Geophysical Trainee
• Operated vibroseis truck, laid geophones, helped survey and assisted with administrative and bookkeeping duties for a seismic field crew.

Education:

1998 – present **Ph.D. in Hydrogeology.** Purdue University, West Lafayette, IN.
May, 2002. Dissertation: *Using a GIS to Interpret Tritium-Groundwater Age Distribution in Indiana.* Tritium data have been linked with well logs in a GIS and a mixing model has been used along with the historic tritium precipitation record to estimate groundwater ages. The tritium data and estimated groundwater ages have been compared with hydrogeology to determine possible recharge mechanisms for aquifers.

1991 – 1993 **M.S. in Hydrology.** New Mexico Tech, Socorro, NM.
May, 1993. Thesis: *Hydrothermal Estimation of Vertical Groundwater Flow.*

1988 – 1990 **M.S. in Geophysics.** University of Wyoming, Laramie, WY.
August, 1988. Thesis: *A laboratory study of Anisotropy of Magnetic Susceptibility.*

1983 – 1987 **B.S. in Geophysics.** New Mexico Tech, Socorro, NM.
May, 1987. Senior Field Project: *Magnetic Survey Across the Rio Grande Valley.*

Select Publications, and Presentations:

Wade, S.C., *Groundwater Flow Model of the Presidio and Redford Bolson Aquifers: Preliminary Calibration Results.* Gulf Coast Association of Geological Societies and Gulf Coast Section SEPM, Transactions, 58th Annual Convention, Houston, Texas, October, 2008.

Mace, R.E. and S.C. Wade. *In Hot Water? How Climate Change May (or May Not) Affect the Groundwater Resources of Texas.* Gulf Coast Association of Geological Societies and Gulf Coast Section SEPM, Transactions, 58th Annual Convention, Houston, Texas, October, 2008.

Wade, S.C., D.I. Leap, S.J. Fritz, M. Denney, M. Hoover, 2001. *Using a GIS to Interpret Groundwater Age Distribution in Indiana.* EOS. Trans. AGU, 82(20), Spring Meeting, Abstract H61B-07.

Guvanasen, V., S.C. Wade, and M.D. Barcelo, 2000. *Simulation of Regional Groundwater Flow and Saltwater Simulation in Hernando County Florida.* GROUND WATER, 38(5): 772-783 .

Panday, S., Y. S. Wu, P.S. Huyakorn, S.C. Wade, and Z.A. Saleem, 1997. *A composite numerical model for assessing subsurface transport of oily wastes and chemical constituents.* Journal of Contaminant Hydrology, 25: 39-62.

Wade, S.C. and M. Reiter, 1994. *Hydrothermal Estimation of Vertical Ground-Water Flow, Cañutillo, Texas*. GROUND WATER, 32 (5): 735-742.

A Hydrothermal Study to Estimate Vertical Ground Water Flow in the Cañutillo Well Field, Between Las Cruces and El Paso. Poster. (**Won Best Student Poster Award**). Shirley Wade and Marshall Reiter. 1993 Rocky Mountain Groundwater Conference, Albuquerque, NM, October 27-29, 1993.

A Hydrothermal Study to Estimate the Vertical Component of Specific Discharge in the Cañutillo Well Field, Between Las Cruces and El Paso. Shirley Wade and Marshall Reiter. New Mexico Geological Society 1993 Annual Spring Meeting, Socorro, NM, April 16, 1993.

Shirley Wade is a hydrogeologist with the Groundwater Availability Modeling Section of the Texas Water Development Board. She received a B.S. degree in geophysics in May, 1987 from the New Mexico Institute of Mining and Technology (New Mexico Tech) in Socorro, New Mexico. After working for a seismic field crew for six months in Bakersfield California in 1988 she began graduate studies at the University of Wyoming, where she received an M.S. in Geophysics in August, 1990. Shirley then attended New Mexico Tech once again, where she received an M.S. in Hydrology in May of 1993. After completing her M.S. she worked for a consulting firm in Herndon, Virginia for five years as a groundwater modeler and hydrogeologist. In 1998 she entered Purdue University's Ph.D. program in the Department of Earth and Atmospheric Sciences located in West Lafayette, Indiana. Upon completing her Ph.D. in hydrogeology at Purdue she started work with the Texas Water Development Board in the Groundwater Availability Modeling section.

At the Texas Water Development Board in Austin Texas, Shirley works on a number of projects to help support groundwater management and planning in Texas. She has completed several analyses using GWSIM-IV, a groundwater model for the San Antonio segment of the Edwards Aquifer. Those analyses included two studies to evaluate the effects of proposed management strategies on Edwards Aquifer springflows. In the last year she has attended approximately 90 percent of the Edwards Aquifer Authority Recovery Implementation Program Science Subcommittee meetings and she has assisted the science subcommittee by post-processing and summarizing results of the Edwards Aquifer Authority groundwater modeling runs.