

Rene Allen Barker

Professional Resume

Professional Geologist:

State of Texas: License # 5592

Education:

Stanford University (1976–77); Stanford, California; Hydrology, Master of Science;
California State University; Fresno (1965–67), Fresno, California; Geology, Bachelor of Science; and
Sierra Junior College (1962–65); Rocklin, California; Pre-Engineering, Associates of Arts

Memberships / Professional Affiliations:

Edwards Aquifer Authority: Recovery Implementation Program, Science Subcommittee Member;
Hill Country Alliance (HCA): Technical Advisory Board;
Austin Geological Society: Austin, Texas;
Edwards Aquifer Research and Data Center: Texas State University, San Marcos, Texas;
Barton Springs/Edwards Aquifer Conservation District: Technical Advisory Group, Austin, Texas;
U.S. Geological Survey: Rehired Annuitant (Hydrologist), Austin, Texas; and
U.S. Geological Survey: Hydrologist, Austin, Texas (Retired 01/03/2001)

Work Experience and Assignments:

2004-Present (Texas State University - Edwards Aquifer Research & Data Center)

Staff Hydrogeologist; Edwards Aquifer Research & Data Center

1998-2000 (USGS)

Staff Hydrogeologist; Texas District, Austin, Texas

1996-98 (USGS)

Project Chief; Computer model and hydrogeology study, Naval Weapons Industrial Reserve Plant and
Naval Air Station, Dallas, Texas.

1994-96 (USGS)

Groundwater Specialist, National Water-Quality Assessment Program (NAWQA), South-Central Texas

1987-94 (USGS)

Project Geologist; Edwards-Trinity Regional Aquifer-Systems Analysis (RASA), West-Central Texas.

1980-87 (USGS)

Regional Groundwater Modeler; Southeastern Coastal Plains Regional Aquifer-Systems Analysis (RASA),
Southeastern United States.

1977-80 (USGS)

Project Chief; Computer model and hydrogeology study, Arkansas River Valley, Kansas.

1976-77 (USGS)

Graduate Student; Stanford University

1974-76 (USGS)

Project Chief; Computer model and groundwater study, Pullman-Moscow Basin, Washington and Idaho.

1973-74 (USGS)

Project Chief; Computer model study, Walla Walla River Basin, Washington and Oregon
Supervisor; Washington (USGS) District, groundwater data section.

1969-73 (USGS)

Project Chief; Water-resource study, Walla Walla River Basin, Washington and Oregon.

1967-69 (USGS)

Groundwater hydrology and computer model study; Columbia River Basalt aquifer system, Washington

Knowledge and Experience Relevant to Hydrogeologic Conditions and Issues in Central Texas

While employed in Austin, Texas by the U.S. Geological Survey (USGS) during 1987-2000, Rene worked primarily on the hydrogeology of the Edwards and Trinity aquifers in Central Texas, as well as the Edwards-Trinity (E-T) aquifer system in West-Central Texas. During 1987-1996, Rene held the position of Project Geologist on the Edwards-Trinity Regional Aquifer System Analysis (RASA). In this position, Rene authored or co-authored six peer-reviewed publications on hydrology, geology, or hydrogeology of the Edwards and (or) Trinity stratigraphic Groups. These reports include USGS Professional Paper 1421-B (Barker and Ardis, 1996), which describes depositional, structural, and diagenetic effects of the geology on the hydrology of the Edwards-Trinity aquifer system.

Beginning in 2004 as a staff hydrogeologist with Edwards Aquifer Research & Data Center (EARDC) at Texas State University in San Marcos, Rene worked on structurally controlled groundwater-flow conditions in the heterogeneous karstic terrain of Central Texas. More recently, Rene has advised the Hays Trinity Groundwater Conservation District (HTGCD) in regard to hydrogeologic aspects of the local Trinity aquifer, including the review of applications for groundwater permits and the associated analysis of aquifer tests conducted in faulted, fractured, and karstic strata. Rene is also an active member of Edwards Aquifer Area Expert Science Subcommittee of the Edwards Aquifer Recovery Implementation Program (dictated through Senate Bill 3).

Rene's employment with EARDC (under the directorship of Dr. Glenn Longley), has afforded numerous opportunities to aid students at Texas State University with their graduate-level research and theses involving the hydrogeology of the Edwards and Trinity aquifers, as well as biological aspects of endangered species' habitats associated with Comal and San Marcos Springs and downstream watercourses.

As a licensed State of Texas Professional Hydrologist (No. 5592), Rene has the credentials to work productively with other experts to accomplish local and short-term objectives while pursuing larger-scale and longer-term priorities of state and federal water agencies. During the past 25 years, Rene has worked to better understand the relevant hydrogeologic conditions and issues associated with region's Edwards and Trinity aquifers. The knowledge and experience thus obtained qualifies Rene as an effective contributor to the Technical Advisory Board of the Hill Country Alliance.

Bibliography:

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- Porter, S.D., **BARKER, R.A.**, Slade, R.M., Jr., and Longley, Glenn, 2009, Historical perspective of surface water and groundwater resources in the Chihuahuan Desert Network, National Park Service: Edwards Aquifer Research & Data Center Report R1-09, Texas State University, San Marcos, TX, 112 p.
- Longley, Glenn, **BARKER, R.A.**, Porter, S.D., and Slade, R.M., Jr., 2008, Progress Report on Historical Data Summaries and Preliminary Trend Analysis: Edwards Aquifer Research and Data Center Departmental Report No. R1-08, Texas State University, San Marcos, Texas, 9 p.
- EARDC Staff, September 2007, Review of and recommendations for hydrologic-monitoring activities in Southern Plains Network, National Park Service: Edwards Aquifer Research and Data Center Departmental Report No.R2-07, Texas State University, San Marcos, Texas, 75 p.
- Slone, B.L., Slade, R.M., Jr., **BARKER, R.A.**, and Longley, Glenn, February 2007, A dynamic graphing procedure to document temporal trends in water quality for National Park Service sampling sites, Southern Plains Network: Edwards Aquifer Research and Data Center Departmental Report No. R1-07, Texas State University, San Marcos, Texas, 21 p.
- BARKER, R.A.** and Slade R.M., Jr., 2005, Hydrogeologic setting and water-quality analysis (July 21-22, 2005) for reach of Dead Man's Creek, Northern Hays County: Edwards Aquifer Research and Data Center (Texas State University) Publication R1-05, 19 p.

- BARKER, R.A.**, and Braun, C., 2000, Digital model analysis of ground-water hydrology and contaminant remediation systems at Naval Weapons Industrial Reserve Plant, Dallas, Texas: U.S. Geological Survey Water-Resources Investigations Report, 42 p.
- BARKER, R.A.**, and Ardis, A.F., 1996, Hydrogeologic framework of the Edwards-Trinity aquifer system, west-central Texas: U.S. Geological Survey Professional Paper 1421-B, 61 p.
- BARKER, R.A.**, Bush, P.W., and Baker, E.T., 1994, Geologic history and hydrogeologic setting of the Edwards-Trinity aquifer system, west-central Texas: U.S. Geological Survey Water-Resources Investigations Report, 51 p.
- BARKER, R.A.**, and Pernik, M.B., 1995, Regional hydrology and simulation of deep ground-water flow in the Southeastern Coastal Plain aquifer system in Mississippi, Alabama, Georgia, and South Carolina: U.S. Geological Survey Professional Paper 1410-C, 87 p.
- Ardis, A.F., and **BARKER, R.A.**, 1993, Historical saturated thickness of the Edwards-Trinity aquifer system and selected contiguous hydraulically connected units, west-central Texas: U.S. Geological Survey Water-Resources Investigations Report 92-4125, 2 sheets.
- BARKER, R.A.**, and Ardis, A.F., 1992, Configuration of the base of the Edwards-Trinity aquifer system and hydrogeology of the underlying pre-Cretaceous rocks, west-central Texas: U.S. Geological Survey Water-Resources Investigations Report 91-4071, 24 p.
- BARKER, R.A.**, 1991, The deposition, diagenesis, and hydraulic characteristics of rocks that compose the Edwards-Trinity aquifer system of west-central Texas, *in* Abstracts with programs of the 1991 Geological Society of America annual meeting, October 21-24, 1991, San Diego, California, p. A267.
- Renken, R.A., **BARKER, R.A.**, and Gomez, F.G., 1991, Basin analysis, paleoenvironment reconstruction and tectonic structures: application of geologic interpretations of regional groundwater assessment in large sedimentary basins, *in* proceedings of the International Conference on Groundwater in large sedimentary basins, July 9-13, 1990, Perth, Australia: Australian Water Resources Council Conference Series No. 20, p. 80-89.
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- Lee, R.W., DeJarnette, S.S., and **BARKER, R.A.**, 1986, Distribution and altitude of the top of saline ground water in the Southeastern Coastal Plain: U.S. Geological Survey Water-Resources Investigations Report 85-4109, 1 sheet.
- BARKER, R.A.**, Dunlap, L.E., and Sauer, C.G., 1983, Analysis and computer simulation of stream-aquifer hydrology, Arkansas River Valley, southwestern Kansas: U.S. Geological Survey Water-Supply Paper 2200, 59 p.

BARKER, R.A., 1979, Computer simulation and geohydrology of a basalt-aquifer system in the Pullman-Moscow Basin, Washington and Idaho: Washington Department of Ecology Water-Supply Bulletin 48, 119 p.

BARKER, R.A., and MacNish, R.D., 1976, Digital model of the gravel aquifer, Walla Walla River Basin, Washington and Oregon: Department of Ecology Water- Supply Bulletin 45, 49 p.

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MacNish, R.D., and **BARKER, R.A.**, 1976, Digital simulation of a basalt-aquifer system, Walla Walla River Basin, Washington and Oregon: Washington Department of Ecology Water-Supply Bulletin 44, 51 p.

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