

**George Rice**  
**Groundwater Hydrologist**

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**General**

More than 20 years experience in groundwater contamination investigations.

**Education**

M.S. Hydrology, University of Arizona, 1991

B.S. Hydrology, University of Arizona, 1979

**Employment History**

1993: Consultant

1988 - 1993: The MITRE Corporation, Brooks Air Force Base, Texas

1983 - 1988: SHB Geotechnical Engineers, Inc., Albuquerque, New Mexico

1980 - 1983: University of Arizona, Tucson, Arizona

1979 - 1980: U.S. Forest Service, Gifford Pinchot National Forest, Vancouver,  
Washington

**Experience**

- Design and install monitor well networks.
- Design, perform, and analyze aquifer tests.
- Design and install vadose zone monitor networks.
- Design and conduct groundwater sampling programs.
- Apply groundwater flow and contaminant transport models to predict the fate of groundwater contaminants.
- Participate in multidisciplinary teams to select and design hazardous waste disposal sites.
- Conduct third party reviews of environmental documents and field programs.
- Expert Witness.

## **Representative Projects**

**UMTRA Project**, Arizona, Colorado, New Mexico, Utah, Wyoming. Groundwater contamination caused by uranium mill tailings. Typical contaminants: metals (arsenic, uranium). Worked for **SHB Geotechnical Engineers, Inc.** Determined extent and character of contamination, developed plans to cleanup tailings and groundwater.

**Yucca Mountain Nuclear Waste Repository**, Yucca Mountain, Nevada. Worked for Southwest Research Institute and HOME (Healing Ourselves and Mother Earth). Evaluated the potential for groundwater to contact waste canisters, and established background concentrations for radionuclides in aquifer down gradient of the proposed waste repository.

**Kelly Air Force Base**, San Antonio, Texas. Groundwater contamination caused by discharge of contaminated water, leakage from tanks and lines, and disposal of wastes. Typical contaminants: solvents (TCE, PCE), fuel components (benzene), metals (chromium, thallium). Member of Kelly Air Force Base RAB. Commented on Air Force's plans to cleanup contaminated soils and groundwater.

**Pantex Plant**, Amarillo, Texas. Groundwater contamination caused by discharge of manufacturing process water and disposal of wastes. Typical contaminants: (TCE, PCE), explosives (RDX), metals (chromium), radionuclides (tritium). Worked for STAND (Serious Texans Against Nuclear Dumping). Evaluated DOE's plans to delineate, cleanup, and monitor contaminated groundwater.

**Los Alamos National Laboratory**, Los Alamos, New Mexico. Groundwater contamination caused by discharges and disposal of industrial wastes. Typical contaminants: explosives (RDX, perchlorate), metals (chromium), radionuclides (plutonium, tritium). Worked for CCNS (Concerned Citizens for Nuclear Safety) and Los Alamos National Laboratory. Evaluated the potential for laboratory contaminants to reach the Rio Grande, and evaluated disposal options for radioactive wastes.

**Kingsville Dome Mine**, Kleberg County, Texas. Groundwater contamination caused by in-situ uranium mining. Typical contaminants: metals (molybdenum, uranium). Worked for the Kleberg County URI Citizen Review Board. Evaluated URI's progress in cleaning up contaminated groundwater, and plans for post-cleanup monitoring.

**Flint Hills Refinery**, Corpus Christi, Texas. Groundwater contamination caused by leakage from refinery. Typical contaminants: fuel components (benzene). Worked with concerned citizens to evaluate the Texas Commission on Environmental Quality's plans to determine the extent of contamination.

**Longhorn Army Ammunition Plant**, Karnack, Texas. Groundwater contamination caused by discharge of contaminated water, leakage from tanks, and disposal of wastes. Typical contaminants: solvents (TCE, DCE), explosives (RDX, perchlorate), metals (antimony, thallium). Worked for Caddo Lake Institute. Evaluated Army's plans to clean-up contaminated groundwater.

## **Bibliography**

Rice, G., 1987. *Design of Low Level Radioactive Waste Repositories to Minimize Groundwater Contamination*. Presented to Rocky Mountain Association of Environmental Professionals, Albuquerque, New Mexico.

Rice, G., Brinkman, J., and Muller, D., 1988. *Reliability of Chemical Analyses of Water Samples -- The Experience of the UMTRA Project*. Ground Water Monitoring Review, Vol. VIII, No. 3, pp. 71-75.

Casagrande, D., Price, F., Rice, G., Vogel, G., 1989. *Geochemistry Manual*, MITRE Working Paper WP-89W00180. The MITRE Corporation, Civil Systems Division, 7525 Colshire Drive, McLean, Virginia.

Rice, G., Green, R., Pohle, J., 1993, *Reduction in Uncertainty in the Geologic Setting Performance Measure, 10 CFR 60.113(a)(2): Computer Code Selections, Conceptual Models, and Databases*, Prepared for Nuclear Regulatory Commission Contract NRC-02-88-005, Center for Nuclear Waste Regulatory Analyses, San Antonio, Texas.

Rice, G. 1994, *AGUA Report, Contamination of the Edwards Aquifer in Bexar County*.

Green, R., Meyer, K., Rice, G., 1994, *Hydraulic Characterization of Hydrothermally-Altered Nopal Tuff*, Prepared for Nuclear Regulatory Commission Contract NRC-02-93-005, Center for Nuclear Waste Regulatory Analyses, San Antonio, Texas.

Green, R.T., Dodge, F.T., Svedeman, S.J., Manteufel, R.D., Rice, G., Meyer, K.A., Baca, R.G., 1995, *Thermally Driven Moisture Redistribution in Partially Saturated Porous Media*, Prepared for Nuclear Regulatory Commission Contract NRC-02-93-005, Center for Nuclear Waste Regulatory Analyses, San Antonio, Texas.

Rice, G., 1996, *The BFI Tessman Road Landfill: Hydrologic Issues*, Prepared for Larry R. Daves and Associates, San Antonio, Texas.

Rice, G., 1997, *Groundwater and Groundwater Contamination in the Vicinity of Mr. Quintanilla's House, 710 Price Avenue, San Antonio, Texas*, Prepared for Tinsman & Houser, San Antonio, Texas.

Rice, G., 2001, *Evaluation of Groundwater Characterization and Modeling at the Pantex Plant*, June 2001. Prepared for Serious Texans Against Nuclear Dumping (STAND).

Rice, G., 2001, *Evaluation of HDR/SAWS Modeling of the Carrizo-Wilcox Aquifer in Lee, Bastrop, and Milam Counties, Texas*.

Rice, G., 2002, *Groundwater Modeling at Pantex, and Recommendations of the Technical Advisory Group*, Prepared for Serious Texans Against Nuclear Dumping (STAND), September 2002.

Rice, G., 2003, *Background Concentrations of Contaminants in the Ogallala Aquifer at Pantex, an Evaluation*, Prepared for Serious Texans Against Nuclear Dumping (STAND), May 2003.

Rice G., and P. Allison, 2004, *Contaminants in The Ogallala Aquifer at the Pantex Plant*, STAND Technical Report 2004-1, May 2004.

Rice, G., 2004, *The Potential for Groundwater Contaminants from Los Alamos National Laboratory to Reach the Rio Grande*, July 2004.

Rice, G., 2006, *Effects of URI's Kingsville Dome Mine on Groundwater Quality*, Prepared for the Kleberg County URI Citizen Review Board, July 2007.

Rice, G., 2012, *Occurrence of Groundwater at the Compact Waste Facility, Waste Control Specialists Facility, Andrews County, Texas*, May 3, 2012.

Rice, G., 2014, *Excursions of Mining Solution at the Kingsville Dome In-situ Leach Uranium Mine*, Volume 9—Austin Geological Society Bulletin—2012-2013.