

# JOHN SHOMAKER & ASSOCIATES, INC.

WATER-RESOURCE AND ENVIRONMENTAL CONSULTANTS

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## RESUME

**STEVE T. FINCH, JR.**

### EDUCATION

- 1991 Northern Arizona University, Flagstaff, AZ  
Master of Science Degree in Geology, thesis topic in Aqueous Geochemistry
- 1985 Sul Ross State University, Alpine, TX  
Bachelor of Science Degree in Geology with Chemistry minor

### PROFESSIONAL ACTIVITIES

- 1994-present John Shomaker & Associates, Inc., Albuquerque, NM  
Senior Hydrogeologist-Geochemist (Principal-Vice President)
- 1990-1994 John W. Shomaker, Inc., Albuquerque, NM  
Hydrogeologist-Geochemist
- 1988-1990 Bilby Research Center Geochemistry Lab, Northern Arizona University  
Geochemist
- 1985-1988 Mineral Exploration in Arizona and southwestern U.S.  
Contract Geologist
- 1981-1982 Atkinson Petroleum, San Antonio, TX  
Apprentice Geologist

#### Responsibilities include

- hydrogeologic investigations related to ground water resource development and water quality issues, aquifer test and interpretation, water-quality monitoring and sampling plans, ground-water flow and contaminant transport modeling, and well-site geology.

#### Summary of major projects

- analysis of deep well injection on formation damage and aquifer protection, Northern San Juan Basin
- develop ground-water flow model for the Florida Mesa area, La Plata County, Colorado to evaluate effects from proposed developments.
- evaluation of rehabilitation options for the city well field, City of Santa Fe, New Mexico
- aquifer storage and recovery feasibility analysis and pilot study for La Luz Well Field, City of Alamogordo, New Mexico
- develop ground water flow model for the Jornada Basin, Dona Ana County, New Mexico
- performance evaluation of Tailings Pond 7 Interceptor Well Field, Chino Mines Company, Hurley, New Mexico.
- development of regional ground-water flow model of the Ortiz Mining Grant area in support of water-right transfer and modification.

- sustainability analysis of ground-water supply and ground water exploration program for Cobre Mining Company Operations.
- water-resource assessment for the Tularosa-Salt Basins and Alamogordo 40-year water plans.
- Project manager on hydrogeologic studies relating to La Luz Well Field, City of Alamogordo
- Desalination feasibility study for the Tularosa Basin, subcontracted to Livingston Associates.
- Hydrogeologic analysis and ground-water flow model of Eldorado Area, Santa Fe County, New Mexico.
- Hydrogeologic analysis and development of ground water flow model for Wild Horse Flat area, Culberson County Groundwater Conservation District, Far West Texas.
- Hydrogeologic analysis and development of ground-water flow model of Salt Underground Water Basin, Otero County, New Mexico.
- Hydrogeologic framework for the Igneous-Bolson Groundwater Availability Model, Far West Texas, subcontracted to LBG-Guyton.
- Project manager for the drilling, construction, development, and testing of Buckman Wells 10 through 13, City of Santa Fe, New Mexico.
- Development of regional ground-water flow model of the Eastern Tularosa Basin in support of City of Alamogordo's applications T-3825 et al.
- Hydrogeologic and water-right evaluation of irrigated lands in Estancia Basin as alternative water supply for City of Santa Fe.
- Hydrogeologic analysis and ground-water flow model of Jal basin, City of Jal, New Mexico.
- Development of 40-year water plan for City of Jal, New Mexico.
- Hydrogeologic and ground-water sustainability analysis for Chino Mines Company, and development of regional ground-water flow and solute transport model of the Mimbres Basin, southwestern, New Mexico.
- Project manager for the development of a ground-water flow and solute transport model of the Griggs and Walnut Superfund Site, Lac Cruces, New Mexico.
- Hydrogeologic analysis and development of water supply for the proposed Galisteo Basin Preserve Community, Santa Fe County, New Mexico.

#### PROFESSIONAL SOCIETIES AND CERTIFICATIONS

- New Mexico Environment Department, Underground Storage Tank Bureau  
Certified Scientist, Certificate No. 003
- Texas Board of Professional Geoscientist  
Certified Professional Geoscientist, #5302
- American Institute of Professional Geologists  
Certified Professional Geologist; Certificate No. 9590
- International Association of Geochemistry and Cosmochemistry
- American Water Resources Association, New Mexico Section (Past President)
- National Ground Water Association

## PROFESSIONAL DEVELOPMENT

- Course work at University of New Mexico: Vadose-Zone Hydrology (Spring 1993)
- Environmental Education Enterprises' course on: modeling groundwater flow and contaminant transport (July 1995)
- Visual MODFLOW: The most widely used software package for MODFLOW, MODPATH, and MT3D, National Ground Water Association, (Feb. 1999)
- Environmental Isotopes in Ground Water Resource and Contaminant Hydrogeology, National Ground Water Association course #394, (March 2002)
- CLE INTERNATIONAL, New Mexico Water Law, Santa Fe, New Mexico (Aug. 2005)
- Applications of Ground Water Geochemistry, Scottsdale, Arizona, National Ground Water Association course #485, (Nov. 2006)

## PUBLICATIONS

- Finch, S. T., Jr.,** Wilson, W. R., and Nelson, D. O., 1985, Evaluation of secondary mineralization and weathering on the bulk composition of an alkali basalt: Abstr., American Chemical Society, Undergraduate Research Symposium, Sul Ross State University. **Awarded for outstanding achievement in chemistry by the American Chemical Society.**
- Parnell, R. A., Jr., Burke, K. J., and **Finch, S. T., Jr.**, 1988, Impacts of acidic emissions from Nevado Del Ruiz Volcano, Columbia, on alpine and agricultural ecosystems: Abstr., Annual Geological Society of America meeting, Denver, Colorado.
- Finch, S. T., Jr.**, and Parnell, R. A., Jr., 1991, Characterization of geochemical processes in a sensitive alpine watershed dominated by sulfide-bearing alkaline rocks, San Juan Mountains, Colorado: Abstr., Rocky Mountain and Central section meeting of the Geological Society of America, Albuquerque, New Mexico, April 24, 1991.
- Newcomer, R. W., Jr., **Finch, S. T., Jr.**, Shomaker, J. W., and Watson, J. B., 1991, Disinfection with sodium hypochlorite may lower the specific capacity of Albuquerque's water-supply wells: Abstract with Program, American Water Resources Association, New Mexico Section, Fourth Annual Conference.
- Finch, S. T., Jr.**, Newcomer, R. W., Jr., and Shomaker, J. W., 1993, Hydrogeologic and hydrogeochemical modeling of deep-well injection in the Dakota and Entrada Sandstones and the Morrison Formation north-central San Juan Basin: Gas Research Institute, Topical Report, ENSR Sub-Contract No. 89088, 77 p.
- Finch, S. T., Jr.**, 1994, Fracture and methane-contamination study of the Animas River Valley from Bondad Hill, Colorado to Cedar Hill, New Mexico: Gas Research Institute, Topical Report, ENSR Sub-Contract No. 89088, 43 p.
- Finch, S. T., Jr.**, and Peery, R. L., 1995, Soil investigations and installation of shallow ground-water monitoring wells using a hand-held auger: National Ground Water Association, Preceding for the Ninth National Outdoor Action Conference/Expo, May 2-4, 1995.
- Finch, S. T., Jr.**, 1995, Overview of ground-water quality in Santa Fe area - a proposed strategy for ground-water resource protection: Proceedings of the American Water Resources Association 1995 Annual Meeting and Field Trip.

- Cumming, K. A., **Finch, S. T., Jr.**, Parnell, R. A., Jr., and Springer, A., 1995, A study of gas discharges from shallow groundwater wells, Chimayo, New Mexico: Proceedings of the American Water Resources Association 1995 Annual Meeting and Field Trip.
- Finch, S. T., Jr., 1997, Groundwater issues related to coal-bed methane production, Northern San Juan Basin, New Mexico and Colorado: Proceedings for 41<sup>st</sup> Annual New Mexico Water Conference titled *Integrated Water Resources Management: Northwestern New Mexico as a Case Study* (September, 1996), WRRI Report No. 302, p.89-100.
- Finch, S. T., Jr.**, 1997, Identification of arsenic-rich ground water using geochemical signatures and geophysical log analysis, Albuquerque, New Mexico: U. S Geological Society, Open File Report 97-496, p.24
- Finch, S. T. Jr.**, and Livingston, E., 1997, Aquifer Storage and recovery study for the La Luz Well Field, City of Alamogordo, New Mexico: Proceedings for AWRA Symposium on Conjunctive use of water resources: Aquifer Storage and Recovery, p. 23-32
- Finch, S. T., Jr., 2001, Overview of drilling methods for environmental investigations: Short course prepared for the New Mexico Environment Department Underground Storage Tank Bureau, April 24, 2001
- Finch, S. T.**, and Bennett, J. B., 2002, Hydrogeology of Culberson County, Texas: Geological Society of America, South-Central Section 36<sup>th</sup> Annual Meeting, Alpine, Texas, April 11-12, 2002, Abstr.
- Bennett, J., B., and **Finch, S. T.**, 2002, Concepts of ground-water recharge in the Trans-Pecos Region, Texas: Geological Society of America, South-Central Section 36<sup>th</sup> Annual Meeting, Alpine, Texas, April 11-12, 2002, Abstr.
- Finch, S. T., Jr.**, 2003, Methods for estimating ground-water recharge and implementation of recharge in calibration of ground water flow models: New Mexico Water Resource Research Institute, New Mexico Symposium on Hydrologic modeling.
- Finch, S. T., Jr.**, 2004, Using results from scientific studies to make decisions about ground-water management: West Texas Water Roundtable – What science tells us, sponsored by The Environmental Science Institute at UT-Austin, Abstr.
- Koning, D. J., and **Finch, S.T.**, 2004, Interpretations of structural and stratigraphic controls on groundwater quality in Chimayo, Espanola Basin, New Mexico: Geological Society of America, Annual Meeting, Denver, Colorado, presentation 249-23.
- Finch, S. T., Jr.**, 2004, The difficulty in managing ground-water resources across political boundaries: Texas Groundwater 2004 – Towards Sustainability, conference sponsored by the International Institute for Sustainable Water Resources, Austin, Texas.
- Author and Co-Author of numerous ground-water studies available in the public record as consultant's reports.**

#### EXPERT TESTIMONY

Provided sworn testimony before  
Bernalillo County Commission  
La Plata County Commission  
Santa Fe County Commission

Provided sworn testimony in administrative proceedings before hearing examiners of  
New Mexico State Engineer Office  
New Mexico Oil and Gas Conservation Commission