Steven T. Finch, Jr., CPG, PG

V.P., Principal Hydrogeologist-Geochemist

sfinch@shomaker.com

Steve Finch has more than 28 years of experience in many parts of New Mexico, Texas, and the Southwestern United States. His work has included hydrogeologic investigations for operating and reclaimed mining operations, groundwater resource development, aquifer-test interpretation, groundwater flow and contaminant-transport modeling, geochemical modeling, water-quality investigations, water-resource analysis, and well-site hydrogeology.

EDUCATION

M.S., Geology
(Hydrogeochemistry), 1991
Northern Arizona University
Flagstaff, Arizona

B.S., Geology, 1985
Sul Ross State University
Alpine, Texas

REGISTRATIONS

Professional Geoscientist,
Texas, No. 5302

American Institute of Professional Geologists, CPG-9590

Summary of Mining Related Projects

- 1991 -92: Hydrogeologic and geochemical analysis of Waste Rock Pile Acid Rock Drainage, Cunningham Hill Mine, Santa Fe County, NM.
- 1992 -93: Hydrogeologic and geochemical characterization of open pit water body, tailing impoundment, and other associated facilities at Copper Flat Mine, Sierra County, NM.
- 1994 – Current: Performance evaluation of Tailings Pond 7 Interceptor Well Field, DP-484, Chino Mines Company, Hurley, New Mexico.
- 1998 - Current: Hydrogeochemical analysis of Cunningham Hill Open Pit reclamation in support of AP-27
- 1995 – 99: Evaluation of mine dewatering options for Main Pit, Tyrone Mining, Grant County, NM
- 1999 – Current: Hydrogeologic and geochemical analysis in support of DP-214 renewal and compliance, Chino Mines Company, Grant County, NM
- 2005 -06 Hydrogeologic and groundwater sustainability analysis for Chino Mines Company, and development of regional groundwater flow and solute transport model of the Mimbres Basin, southwestern, New Mexico.
- 2006 – Current: Hydrogeologic and geochemical analysis in support of DP-55 compliance, Cunningham Hill Mine Reclamation Project, Santa Fe County, NM
- 2007 -12: Hydrogechemical assessment of reclaimed Colosseum open pit mine and tailings impoundment, San Bernardino County, CA
- 2009: Hydrogeologic evaluation of interceptor well system for La Copia Mine, Kinross, Chile
- 2011 -12: Geochemical assessment of seepage elevated with selenium, Reclaimed East Ravine Stockpile, Homestake Mine, South Dakota
- 2011 – Current: Hydrogeologic and geochemical analysis in support of Copper Flat Project, NMCC, Sierra County, NM
- 2012: Hydrologic impact of El Segundo Mine water supply well, McKinley County, NM
- 2012: Hydrologic analysis and development of dewatering plan for Summit Mine, Grant County, NM
- 2012: Participated on the Technical Advisory committee for developing the NMED Copper Rules
- 2013 -14: Hydrogeochemical assessment of dewatering effects on springs, Ruby Hill Mine, NV
- 2014 – Current: Technical support for development of water supply options to support Cobre Mine expansion, Grant County, NM

EXHIBIT
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Summary of Water Resource Related Projects

- Aquifer storage and recovery feasibility analysis and pilot study for La Luz Well Field, City of Alamogordo, New Mexico.
- Develop groundwater flow model for the Jornada Basin, Dona Ana County, New Mexico.
- Sustainability analysis of groundwater supply and groundwater 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 groundwater flow model of Eldorado Area, Santa Fe County, NM.
- Hydrogeologic analysis and development of groundwater flow model for Wild Horse Flat area, Culberson County Groundwater Conservation District, Far West Texas.
- Hydrogeologic analysis and development of groundwater 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.
- Hydrogeologic and water-right evaluation of irrigated lands in Estancia Basin as alternative water supply for City of Santa Fe.
- Hydrogeologic analysis and groundwater flow model of Jal basin, City of Jal, New Mexico.
- Hydrogeologic analysis of water supply for Tularosa and Salt Basin Regional Water Plan.
- Project manager for the development of a groundwater flow and solute transport model of the Griggs and Walnut Superfund Site, Lac Cruces, New Mexico.
- Refined the Geologic Framework for the Capitan Reef aquifer, Far West Texas.
- Hydrogeologic assessment and water development plan for 223,000 acre La Escalera Ranch, southern Pecos County, Texas
- Hydrogeologic assessment and water protection plan for 122,000 acre Lado Ranch, Culberson County, Texas
- Hydrogeologic assessment of 163,000 acre Apache Ranch, Culberson County, Texas
- Analysis of return flow options using treated effluent from the City of Santa Fe Paseo Real WWTP, Santa Fe County, NM
- Groundwater assessment of the Devil Ridge Thrust Zone, Hudspeth County, Texas
- Development of source water and wellhead protection plan for Chino Mines Water system, Grant County, NM.
- Implementation of water level monitoring program for City of Las Cruces, Dona Ana County, NM
- Hydrogeologic and geochemical characterization of the Blaine Aquifer System for the Texas Water Development Board, north-central Texas
- Hydrogeologic characterization of the Santa Rosa Sandstone aquifer in southeastern NM

Professional Societies and Certifications

- Geological Society of America
  Certificate of Appreciation as Distinguished Mentor
- U.S. Department of Interior Geological Survey Certificate of Appreciation as Volunteer for Science Program
- International Association of Geochemistry and Cosmochemistry
- American Water Resources Association, New Mexico Section (Past President)
- National Ground Water Association
- American Chemical Society award for Outstanding Achievement in Chemistry

Professional Development

- Scientist at Bilby Research Center Geochemistry Lab, Northern Arizona University (1987 -90)
- 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)
- Nevada Water Resource Association, Day of Pit Lakes Symposium, January 26, 2015

Expert Testimony

Provided sworn testimony before Bernalillo, La Plata, Rio Arriba, and Santa Fe County Commissions

Provided sworn testimony before Middle Pecos Groundwater Conservation District, Pecos County, TX

Provided sworn testimony before Culberson County Groundwater Conservation District, Culberson County, TX

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

Provided sworn testimony in Lermayer v. Davalos, Cause No. D-1215-CV-1998-00442

Selected Publications

Finch, S. T., Jr., 1991, Characterization of geochemical processes in a sensitive alpine watershed dominated by sulfide-bearing alkaline rocks, San Juan Mountains, Colorado: Thesis submitted in partial fulfillment of the requirements for the Degree of Master of Science in Geology, Northern Arizona University, 1991.

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.

Finch, Steven T., Jr., 2011, Hydrogeology of the Tusas Mountains, Rio Arriba County, New Mexico, *in:* Geology of the Tusas Mountains and Ojo Caliente Area, New Mexico Geological Society, Guidebook, 62nd Field Conference, pp. 317-328.