

Principal Hydrogeologist

Expertise

Hydrogeology, Engineering Geology

Education

Ph.D. (Engineering Geology), 1980, University of Wisconsin, Madison
M.S. (Geology and Geophysics, emphasis on Hydrogeology), 1975
M.S. (Water Resources Management), 1974
B.S. (Geology, with Honors), 1972, Indiana University, Bloomington

Registrations

Geologist – California
Environmental Manager – Nevada

Professional Societies

Association of Ground-Water Scientist & Engineers
(Advisor to the Editor-in-Chief for *Ground Water*)
Colorado Ground-Water Association
Geological Society of America

Professional Experience

2008 – Present

*Itasca Denver, Inc., (formerly Hydrologic Consultants, Inc.), Colorado
Principal Hydrogeologist, Office Director*

2002 – 2008

*Engineering Management Support Inc, Colorado,
(EMSI is a partnership of 4 partners)
Principal Hydrogeologist*

1999 – 2002

*RJS Consulting, Inc., Colorado
Independent Consulting Hydrogeologist, Engineering Geologist*

1989 – 1999

*Hydrologic Consultants, Inc. of Colorado
Co-Founder, Vice President, Principal Hydrogeologist*

1974 – 1989

Various positions as a Hydrogeologist in academic and consulting firms

Project Experience

Emphasis of work has been on the investigation and analysis of impacts to soil and groundwater from the releases of chemicals. Designed and implemented field investigations and remedial action programs for both soil and groundwater, ranging from soil vapor extraction, air sparging, groundwater extraction and source removal. Worked extensively in the area of the movement of fluids in the vadose zone and on multi-phase fluid issues as well as the movement of fluids through fractures. With respect to fracture flow, worked on sites where groundwater flow was primarily in fractures located in Peru, Indonesia, and at sites within the United States (California, Montana, Missouri, Minnesota, and Iowa).

Conducted field investigations of large mine waste-rock piles for the purpose of proposing alternative management strategies that would minimize the amount of acid rock drainage that may be produced. Directed projects involving quantitative analysis of groundwater and design, implementation and evaluation of waste remediation technologies in both the saturated and unsaturated zones. Worked on both state and federal Superfund sites consisting of site investigations, analysis of remedial actions and the appropriateness of remedial actions, and assessment of allocation of responsibility. He has headed, designed and participated in field investigations at Superfund sites in California, Texas, Arizona, Colorado, Iowa and Montana, requiring negotiations with regulatory agencies regarding the scopes of investigation and analysis of the fate and transport of chemicals in soil and groundwater, including having supervised a technical team that obtained a Technical Impracticability waiver from the USEPA for an arsenic contaminated Superfund site that is located in Houston, Texas. He is the technical editor and contributor to the Third Edition of *Groundwater and Wells*, a standard reference in the hydrogeology field.

Testimony: Provided expert testimony related to the nature, extent and sources of chemicals, assessment of costs, allocation of costs, the divisibility of harm, and fate and transport of chemicals in soil and groundwater.

Teaching: Taught courses in hydrogeology, geological engineering and contaminant transport at the Colorado State University (Fort Collins, CO), the Colorado School of Mines (Golden, CO), the University of California (Davis, CA), and the University of Santiago (Chile).