

Principal Hydrogeologist

Expertise Groundwater and Contaminant Hydrology, Geochemistry, and Software Development

Education Ph.D. (Civil Engineering), 1992, University of Colorado, Boulder
M.S. (Hydraulics and Fluid Mechanics), 1986, HeHai University, P.R. China
B.S. (Hydraulic Engineering and Water Resources), 1983

Registrations Registered Professional Engineer (Colorado)

Professional Affiliations International Mine Water Association

Certifications MSHA (Mining Safety and Health Administration), First Aid, WHMIS (Workplace Hazardous Materials Information System), SUN Microsystems Certified Java II Programmer

Professional Experience

2008 – Present *Itasca Denver, Inc., (formerly Hydrologic Consultants, Inc.), Colorado
Principal Hydrogeologist*

2001 – 2008 *Hydrologic Consultants, Inc. of Colorado
Senior Engineer/Technical Manager*

2000 – 2001 *Matchlogic, Inc., Westminster, Colorado
Advanced Software Engineer*

1999 – 2000 *Geoanalysis, Inc., Denver, Colorado
Associate Engineer/Geochemist*

1992 – 1999 *Hydrologic Consultants, Inc. of Colorado
Senior Project Engineer/Geochemist*

1990 – 1992 *University of Colorado, Boulder
Research and Teaching Assistant*

1988 – 1990 *University of Arizona, Tucson, Arizona
Research and Teaching Assistant*

1986 – 1988 *HeHai University, Nanjing, P. R. China
Assistant Professor*

Project Experience

Groundwater Hydrology: Investigated groundwater conditions related to mining, hydropower engineering and rock quarry. Developed and implemented three-dimensional numerical flow models to simulate mine dewatering requirements of large-scale surface and underground mines. Designed field testing approaches to obtain hydrogeologic parameters.

Contaminant Hydrology: Applied geochemistry, hydrology, and environmental engineering to environmental and mining related projects. Assessed the fate and transport of chemicals in mine water, pit lake, vadose zone and groundwater through laboratory study, field investigations and numerical analyses. Developed numerical codes for chemical reaction and transport of multi-components in groundwater, chemical transport in the vadose zone, and parameter fitting of kinetic chemical reactions. Analyzed and evaluated the impact of open-pit mining and underground coal mining on local and regional groundwater systems. Major participant in acquiring closure of a contaminated site in Texas by applying for Technical Impracticability (TI) Waiver and a site in Colorado under Colorado State Voluntary Clean Up Program. Provided litigation support for numerous projects.

Geochemistry: Investigated and predicted geochemical conditions of open-pit mines in Nevada, an underground mine in Indonesia and a diamond mine in Canada. Experience includes developing numerical codes and using commercial software to predict the potential of acid mine drainage, to simulate the kinetic reactions and transport of multi-chemical species and to implement geochemical models, and identifying dewatering target with geochemical fingerprinting approaches.

Research and Development Experience: Developed the Rapid Emulator based on *PFC3D (REBOP)* using Java and an object-oriented approach. The final version of *REBOP* will be a user-friendly package for simulating the flow of rocks into multiple interacting drawpoints of block cave mining. Developed distributed-web-advertisement software using Java and COBRA technologies. Experience includes database design and application (both Oracle and SQL), development of server-side and middleware applications, and mapping of relational database with Java object using Toplink.