

EDUCATION

M.S., Environmental Science and Engineering, Colorado School of Mines, Golden, 2002
B.S., Geology, Syracuse University, Syracuse, New York, 1996

PROFESSIONAL REGISTRATION/CERTIFICATION

Professional Geologist, Wyoming, #3602
Petroleum Storage Tank Fund Listed Consultant Program, Colorado, #5706

EXPERIENCE

Leonard Rice Engineers, Inc., Denver, Colorado

Project Manager/Hydrogeologist—December 2010-present

Senior Project Hydrogeologist—June 2010-December 2010

Conducts and supervises hydrogeologic investigations, including project management, aquifer characterization and testing, geologic and environmental systems modeling (including MODFLOW ground water modeling), evaluation of land subsidence due to fluid withdrawal, oversight of drilling and well installations, sampling, water rights analysis, evaluation of stream depletions, three dimensional subsurface visualization, geographical information systems, permitting and regulatory agency interaction. Ground water modeling work includes automated calibration (PEST and UCODE), parallel processing, geologic conceptual modeling, and evaluation of model uncertainty.

Geomega, Boulder, Colorado

Hydrogeologist—2009-2010

Lead Hydrogeologist for the development of an engineering design MODFLOW-SURFACT model with the goal of infiltrating 13 acre-feet of produced water per day into the subsurface of a 200-acre alluvial site in San Louis Obispo County, California. Performed automated model calibration using PEST software in a parallel processing environment.

Provided detailed water balance studies in the Basin and Range province of Nevada. Components evaluated include point flow surface water modeling to evaluate stream gain/loss; net recharge ground water inputs incorporating precipitation, irrigation, evapotranspiration and water use; well inventories and pumping estimates; ground water underflow assessments.

Tetra Tech, Longmont, Colorado

Hydrogeologist—2004-2009

Provided hydrogeologic support during construction of a municipal well field with 17 alluvial wells near the South Platte River in Colorado. Tasks included field oversight of drilling, well construction, aquifer testing, pump/motor installation, system start up testing, and well field yield optimization.

Lead Hydrogeologist for the development of regional MODFLOW ground water models in support of a trial in Colorado Division 1 Water Court. Modeling objectives included determining the timing, amount, and location of depletions due to pumping 49 wells near the South Platte River. Performed parallel processing model calibration using UCODE automated calibration software. Prepared expert and rebuttal reports, exhibits and materials used in settlement negotiations.



Developed a MODFLOW ground water model used to assess proposed pumping well locations near the Tigris River in Baghdad, Iraq. Evaluated the drawdown effects from different pumping scenarios. Assisted in well design, well siting, and aquifer test analysis for three production wells up to 270 feet deep.

Assisted in design and field engineering for the construction and testing of a 960 foot deep, large capacity, municipal/industrial, Laramie-Fox Hills water supply well located in Hudson, Colorado.

Provided hydrogeologic support for a water supply and pretreatment project near the South Platte River in Colorado. Services included the design and installation of water wells, geotechnical investigations, and aquifer testing. Supported design, construction oversight and operation of infiltration basin and water well pilot test facilities. Developed and implemented pilot test procedures, including tracer studies to assess flow paths, travel times, and stream/aquifer interaction. Performed MODFLOW modeling to aid project design and prepared various types of permits.

MFG, Inc., Boulder, Colorado

Environmental Geologist—2000-2004

Conducted environmental sampling for a pilot program to identify and address sources of lead exposure for children in residential areas of the California Gulch Superfund Site in Leadville, Colorado. Provided statistical analysis and reporting for evaluation of program effectiveness.

Designed sampling plan and performed soil sampling and analysis (by X-ray fluorescence) to delineate extent of metals contamination at the Arkansas Valley Smelter Operable Unit of the California Gulch Superfund Site in Leadville, Colorado.

Provided technical support for hydrogeological and geochemical characterization of the Apache Tailings site at the California Gulch Superfund Site in Leadville, Colorado. Implemented surface water and ground water performance monitoring program to assess the effectiveness of the remedial action.

Assisted in the development of a program to identify sources of lead exposure for children in residential areas of the Omaha Lead Superfund Site in Nebraska.

Performed hydrologic evaluation of remedial alternatives for repository options at various mine waste and tailings sites using Hydrologic Evaluation of Landfill Performance (HELP) model.

Performed ground water modeling to assist design of ground water extraction remediation wells at various industrial ground water contamination sites using MODFLOW modeling code.

Designed, directed, and performed environmental sampling for a project intended to identify sources of lead and arsenic exposure for children in residential areas of the Vasquez Boulevard and Interstate 70 Superfund Site in Denver, Colorado.

Provided characterization, monitoring, and remediation of hydrocarbon contaminated soils and ground water at a former underground storage tank site. Performed quarterly monitoring and reporting; assisted in development and implemented an in-situ chemical oxidation remediation program.

Project Manager and technical lead for the characterization and remediation of soils and ground water contaminated by petroleum hydrocarbons at a former service station. Responsibilities included client and regulatory interaction; site characterization activities to delineate the nature and extent of contamination in soil and ground water; modeling of vapor and mass extraction rates using VENT2D; respirometry testing to quantify biodegradation rates in vadose zone soils; startup testing; operating, maintaining, and monitoring of the AS/SVE system.

Roy F. Weston, Lakewood, Colorado

Environmental Geologist—1998-2000

Conducted field investigations at the former Stapleton International Airport in Denver, Colorado to define nature and extent of free-phase and dissolved-phase hydrocarbon contamination. Tasks included lithologic logging with hollow-stem auger and direct-push drilling rigs; soil, ground water, and vapor testing; operation and maintenance of remediation equipment; data evaluation and reporting.

National Park Service, Longmire, Washington

Aquatic Biologist—1996-1997

Crew leader for an aquatic ecosystem survey in Mt. Rainier National Park. Conducted field investigations in sub-alpine areas to survey and monitor wetland areas. Performed aquatic field sampling and testing, wetland classification, biological species identification, aquatic sampling and laboratory analyses.

PROFESSIONAL ACTIVITIES

National Ground Water Association (NGWA)

Colorado Ground Water Association (CGWA)

American Water Resources Association (AWRA)

Colorado Foundation for Water Education (CFWE) – 2011 Water Leaders Program

Colorado Haiti Project, Colorado, Volunteer Hydrogeologist—2010-present

Technical advisor for aquifer management and protection in a rural, developing area of Haiti.

Water For People, Denver, Colorado, Volunteer Hydrogeologist—2008-2010

Developed a scope of work for a participatory ground water management plan aimed at restoring and protecting an over utilized alluvial aquifer in a developing region. Performed stakeholder interviews, project scoping, and estimated project costs, schedule and staffing.