

EDUCATION

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

PROFESSIONAL REGISTRATION/CERTIFICATION

Professional Geologist: Idaho #PGL-1453, Texas # 11440, Wyoming #PG-3602, Nebraska #G-0376
Project Management Professional: Number 1749472

EXECUTIVE SUMMARY

A collaborative, team-oriented Groundwater Group Manager with over 18 years experience in groundwater services, project management and water resources. Responsible for coordinating and organizing teams of diverse subject matter experts and providing technical leadership to solve today's water resource challenges. A practical, efficient, results-oriented problem solver who respects underlying principles and traditions with the ability to adapt to modern application.

PROFESSIONAL EXPERIENCE

LEONARD RICE ENGINEERS, Inc., Denver, CO

2010- present

Groundwater Group Manager

Former Project Manager/Hydrogeologist

Technical expertise subject areas include groundwater modeling, surface water/groundwater interaction, groundwater methods in water reuse (riverbank filtration and soil aquifer treatment), aquifer recharge, and subsidence caused by groundwater pumping.

Conducts and supervises hydrogeologic investigations, including project management, aquifer characterization and testing, geologic and environmental systems modeling (including MODFLOW groundwater modeling), and water rights support. Groundwater modeling work includes automated calibration (PEST and UCODE), parallel processing, geologic conceptual modeling, and evaluation of model uncertainty. Significant projects include:

- Team leader managing staff, resources, and schedules for a group of hydrogeologists and technicians performing groundwater work.
- Project manager and lead Hydrogeologist for Tarrant Regional Water District investigation into effectiveness of riverbank filtration for water quality improvements along the Trinity River. Project tasks include geotechnical, hydrogeologic, and geophysical field investigation, groundwater modeling, and design, construction and testing of riverbank filtration pilot test sites.
- Serving on the Eastern Snake Plain Hydrologic Modeling committee and participating in the support and oversight of MODFLOW modeling activities in the Eastern Snake Plain. Expert witness in support of a water rights hearing (IDWR Case No. CM-DC-2011-004) involving complex surface water and groundwater interaction of the Eastern Snake Plain Aquifer.
- Development of regional MODFLOW models used to estimate well field yield and land subsidence due to groundwater pumping in Arizona. Work included aquifer characterization, lithologic modeling, model development, automated model calibration and predictive



- uncertainty analysis using PEST, subsidence modeling with the SUB-WT package, and evaluation of subsidence related observations and empirical relationships.
- Review of USGS Northern Arizona Regional Groundwater Flow Model.
 - Expert witness providing hydrogeology support of water rights for a Boulder County Parks and Recreation augmentation pond.
 - Review of several different models along the South Platte River and its' tributaries in support of, or objection to, water rights cases.
 - Support of groundwater development projects along the Colorado Front Range.

GEOMEGA, Boulder, CO

2009-2010

Hydrogeologist

Provided MODFLOW modeling in support of alluvial recharge and mining related analyses. Performed detailed water balance studies including point flow surface water modeling to evaluate stream gain/loss; net recharge groundwater inputs incorporating precipitation, irrigation, evapotranspiration; well inventories and pumping estimates; groundwater underflow assessments. Implemented PEST automated model calibration in a parallel processing environment.

TETRA TECH, Longmont, CO

2004-2009

Hydrogeologist

Supported City of Aurora's Prairie Waters project near the South Platte River, CO. Field investigation and construction tasks included field oversight of drilling, well construction, pump/motor installation, aquifer testing, system start up testing, well field yield optimization, and geotechnical investigations. Support also included the design, construction, and operation of alluvial recharge and riverbank filtration pilot test facilities. Developed and implemented pilot test procedures, including tracer studies to assess flow paths, travel times, and stream/aquifer interaction.

MODFLOW modeling support for the Prairie Waters Project included development of regional MODFLOW groundwater model for Colorado Division 1 case 2006CW104. Performed parallel processing model calibration using UCODE. Prepared expert and rebuttal reports, exhibits and materials used in settlement negotiations for case 2006CW104.

Provided support for abandoned mine hydrology and geochemistry, groundwater modeling to support water development and management, well design, oversight of drilling and well installations, sampling, geographical information systems, permitting and regulatory agency interaction.

MFG, INC., Boulder, CO

2000-2004

Environmental Geologist

Provided hydrogeological and environmental support for investigation, monitoring and remediation of mines, processing, hydrocarbon, and other non-aqueous phase liquid contamination sites. Services included field investigations of soil, water, and air; sample analysis; data management; data analysis; reporting; GIS; permitting and regulatory agency interaction.

Roy F. Weston, Lakewood, CO

1998-2000

Environmental Geologist

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, groundwater,

and vapor testing; operation and maintenance of remediation equipment; data evaluation and reporting.

National Park Service, Longmire, WA

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, and aquatic laboratory analyses.

EXPERT TESTIMONY

Within the preceding ten years Mr. Colvin has provided expert testimony on behalf of the applicant or objector in the following case.

Rangen, Inc.; Idaho Department of Water Resources Case No. CM-DC-2011-004,
Distribution of Water to Water Right Nos. 36-02551 and 36-07694, May, 2013.

EXPERT REPORTS

Within the preceding ten years Mr. Colvin has performed groundwater analysis, provided assistance in settlement negotiations, and authored reports on behalf of the applicant or objector in the following cases.

Boulder County Parks and Open Space; CO Division 1 Case No. 2010CW320, Change of
Use and Plan for Augmentation for Kenosha Ponds Open Space, 2013.
Rangen, Inc.; Idaho Department of Water Resources Case No. CM-DC-2011-004,
Distribution of Water to Water Right Nos. 36-02551 and 36-07694, May, 2013.
City of Aurora; CO Division 1 Case No. 2006CW104, Aurora's Prairie Waters Project,
2007.

PROFESSIONAL ACTIVITIES

American Water Resources Association (AWRA) – News and Outreach Committee Chair
American Council of Engineering Companies (ACEC) – Emerging Leaders Group
Colorado Foundation for Water Education (CFWE) – 2011 Water Leaders Program
Colorado Groundwater Association (CGWA)
National Groundwater Association (NGWA)

Colorado Haiti Project, Colorado, Volunteer Hydrogeologist

2010-present

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

Water For People, Denver, Colorado, Volunteer Hydrogeologist

2008-2010

- Provided guidance for development of a participatory groundwater management plan aimed at restoring and protecting an over utilized alluvial aquifer in San Pedro Sula, Honduras. Performed stakeholder interviews, project scoping and cost estimate.

PRESENTATIONS & PUBLICATIONS

Colvin, David C., 2012. *"One Dimensional MODFLOW Modeling of Land Subsidence Due to Fluid withdrawal."* GSA Abstracts with Programs – 2012 Cordilleran Section Meeting, Vol. 44, No. 3. Geological Society of America. Boulder, CO.

Colvin, David C., 2012. *"Comparison of One and Three Dimensional MODFLOW Subsidence Results."* 2012 Groundwater Summit, National Groundwater Association, Westerville, OH.

Colvin, Dave, and Ashley, Stephanie, 2013. *"Site Assessment and Design of Riverbank Filtration Systems."* American Water Resources Association – Colorado Chapter Monthly Presentation, Denver, CO.

Colvin, Dave, and Ashley, Stephanie, 2013. *"Riverbank Filtration."* Groundwater Management District Association Summer Conference – Conference Proceedings. Colorado Springs, CO.

Colvin, Dave, and Neupauer, Roseanna, 2013. *"Riverbank Filtration Feasibility Modeling."* MODFLOW and More 2013 – Conference Proceedings. Integrated Groundwater Modeling Center. Golden, CO.

Colvin, Dave, and Bauer, Jacob, 2013. *"Cost Effective Feasibility Investigation of Natural Subsurface Reuse Treatment Systems."* Poster session at the 2013 National Water Reuse Symposium, Denver, CO.

Colvin, Dave, Bauer, Jacob, and Noack, Tim, 2013. *"Effective Tools and Project Planning for Riverbank Filtration Feasibility Investigation"* Poster session at the 2014 Texas Water, Dallas, TX. ([Link](#))

Colvin, Dave, 2014. *"Groundwater Solutions for Indirect Potable Reuse."* 2014 Rocky Mountain Water Reuse Workshop, Golden, CO.