



## **Matthew J. Seitz, P.E., P.G.** **Principal Hydrogeologist**

### **Education**

- M.Eng., Civil Engineering – Geographic Information Systems, University of Colorado at Denver, 2007
- B.A., Geology, Colorado College, Colorado Springs, 1997

### **Registrations/Affiliations**

- Registered Professional Engineer - Colorado
- Registered Professional Geologist/Geoscientist:
  - Wyoming
  - Texas
  - Utah
- Colorado Ground Water Association (Past President)
- National Ground Water Association
- Rocky Mountain Association of Geologists
- Colorado Water Well Contractors Association
- Rotary Club

### **Contact Information**

- [mseitz@hrswater.com](mailto:mseitz@hrswater.com)
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### **Representative Projects**

- Completed a review of literature relevant to a lawn irrigation return flow study for a Denver Water. Used GIS software to facilitate the calculation of variables needed for input to a Glover stream depletion determination. Observed installed of over 50 monitoring wells and implemented water level monitoring program (Denver Water).
- Observation of drilling, geophysical logging, well construction, well development, and aquifer testing of over 25 Denver Basin aquifer wells (Denver, Arapahoe, Laramie-Fox Hills, and Upper Pierre aquifers for various clients (e.g., Colorado Springs Utilities, The Pinery, South Suburban Parks and Rec, Waste Management, Academy W&S District, Prosper Farms Investments, Noble Energy, etc).
- Two-day field reconnaissance to develop a hydrogeologic conceptualization of a ground water basin west of Phoenix, Arizona. Developed water budget using field notes, published reports, and a large amount of spatial and tabular data. Used water budget to provide input files to MODFLOW ground water model. Created relational database to summarize data and presented results using GIS software. Analyzed InSAR and other data on land subsidence and prepared a report documenting sustainable sixty-year yield and estimated ultimate land subsidence. (Confidential client).
- Well design and testing observation of a replacement high-capacity alluvial well at Western Sugar Cooperative's Fort Morgan Plant. Replacement well greatly increased yield, well efficiency, and reduced pumping costs. Coordinated with local driller to implement unique and effective well development plan (Nov. 2015).
- Led or assisted in the economic analysis, site selection, well design, preparation of specifications, permitting, aquifer testing, and groundwater modeling of Colorado's first horizontal collector well (HCW).

### **Experience Overview**

Mr. Seitz is a Principal Hydrogeologist with HRS Water Consultants, Inc., and specializes in groundwater supply, hydrologic data analysis, data management, and project management.

His experience includes drilling project management, aquifer testing, well site lithologic description, well site construction observation, well design, well rehabilitation design, well pump system design, geophysical log interpretation, preparation of expert reports for Water Court proceedings, GPS/GIS data collection, hydrogeologic system conceptualization, aquifer test analysis, geologic mapping and cross section construction, pumping cost optimization studies, well permitting and regulatory compliance, construction cost estimation, preparation of bid documents and specifications, and spatial analysis of hydrologic systems using GIS.

Mr. Seitz is experienced in the creation of relational databases and geographic information system (GIS) models and their application to a wide range of surface and groundwater projects.

Mr. Seitz has 20 years of experience in the water consulting field, with most projects located in Colorado. His typical clients include municipalities, water districts, private well owners, farmers and ranchers, ditch companies, State and Federal agencies, HOAs, and natural resources companies.

The HCW was completed in the South Platte alluvial aquifer in January 2017 and was successfully tested at rates of over 9,000 gpm (S. Adams Co. W&S District).

- Well rehabilitation of a municipal alluvial aquifer well in Vail, Colorado for Upper Eagle Regional Water Authority (UERWA). Designed mechanical and chemical well rehabilitation program to mitigate iron bacteria issue and designed pumping system to reduce galvanic corrosion of pumping equipment due to high dissolved oxygen and conductivity of well water.
- Designed and implemented a regional data collection program and ground water modeling effort to examine the risk of alluvial wells being designated as “ground water under the direct influence of surface water” (GWUDI) by the Colorado Dept. of Public Health and Environment (CDPHE). Coordinated with CDPHE to understand the evolution and nuances of their regulatory process; submitted comments during the draft GWUDI review period which were later incorporated into the final version of the GWUDI policy (Policy DW-003).
- Construction observation, aquifer testing, and pumping system startup testing of a well liner in an alluvial aquifer well in Edwards, Colorado. Successfully reduced sand content of well below AWWA standard. (Upper Eagle Regional Water Authority)
- Designed, operated, and interpreted a 5-day aquifer and recovery test of “headgate” well field on the South Platte River using 8 monitoring wells and a temporary hand-augered sand point well. Corrected data for stream stage fluctuations and barometric effects. Determined aquifer properties using test results and image well methodology.
- Hydrogeologist for the ground water component of the Rio Grande Decision Support System project in the San Luis Valley, Colorado. Provided data and analysis used to develop the State’s Confined Aquifer Rules, particularly confined aquifer characteristics, geologic layering, and land subsidence potential due to pumping. Oversaw construction of 15 deep monitoring wells with associated extensometers and constant rate aquifer tests. (Colorado Water Conservation Board and Colorado Division of Water Resources)

## Presentations and Papers

- Seitz, M.J. 2018. Wells 101 – Location, Protection, Components. Presented at Water Quality Association’s Annual Convention and Exposition, Denver, CO. March 26, 2018.
- Seitz, M.J. 2018. Pumps 101 – Wells and Pumping Systems. Presented at Water Quality Association’s Annual Convention and Exposition, Denver, CO. March 26, 2018.
- Seitz, M.J, and Ingels, Tyson (CDPHE), February 2015, “Is Your Water Well ‘Under the Influence?’ Strategies to Evaluate Groundwater Under the Direct Influence of Surface Water (GWUDI) Potential and Mitigate Risk.” Abstract and presentation at Colorado Groundwater Association, Denver, Colorado.
- Seitz, M.J, and Michael, S.C., April 2013, “That Sinking Feeling - Using InSAR Data to Analyze Land Subsidence.” Abstract and presentation at National Groundwater Association Groundwater Summit, San Antonio, TX. 2013.
- Seitz, M.J, July 2012, “Introduction to Hydrology of the South Platte Alluvial Aquifer.” Abstract and presentation for Colorado Water Well Contractors Association, Breckenridge, CO.
- Seitz, M.J, October 2002, “Ground Water/Surface Water in the Medano Creek Floodplain, Great Sand Dunes National Monument, San Luis Valley, Colorado.” Abstract and presentation at Geological Society of America Convention, Denver, Colorado.
- Seitz, M.J., May 9, 1997, “The Occurrence of Elevated Gamma Radiation Zones and possible Water Quality Impacts in Denver Basin Aquifers.” Colorado College Undergraduate Distinction Thesis, May 9, 1997.

## Water Court Experience

- City and County of Broomfield, CO. Division 1, Case No. 2006CW288 (09CW96), Application for Conditional Underground Water Right, Alternate Point of Diversion, Plan for Augmentation; completed Expert Meeting negotiations and trial preparation.
- Donala Water and Sanitation District. Division 2, Case No. 09CW096 (2009CW73), Application for Change of Water Rights and Conditional Exchange; completed Expert Meeting negotiations and trial preparation.

- Timbro Ranch and Cattle Co. Division 1, Case Nos. 13CW3144 / 14CW3134. First Amended Consolidated Application for Nontributary Underground Water Rights from the Upper Pierre Aquifer Or In the Alternative Conditional Underground Water Rights and Plan for Augmentation; Attended Expert Meetings, Prepared Expert rebuttal reports, provided Expert Witness support in Division 1 Water Court trial.