



Wright Water Engineers, Inc.

TREVOR DOWNING, P.G.
GEOLOGIST / GIS TECHNICIAN

- CURRENT** Trevor is a technician on geologic and hydrogeologic projects, including geologic hazard assessment, water rights analysis, water quality monitoring, mapping projects, integration of GPS-derived data, and groundwater investigations. Proficient with ArcGIS and extensions, including spatial analysis.
- EDUCATION** B.S., Environmental Geology, 2012
Fort Lewis College, Durango, Colorado
- CERTIFICATIONS** Professional Geologist, Utah Ref No. 11057492-2250
Geographic Information Systems (GIS) Certificate, 2012
Fort Lewis College, Durango, Colorado

REPRESENTATIVE PROJECTS

Water Supply

Ute Mountain Ute Tribe Water Conservation and Management Plan. Performed all necessary mapping tasks for comprehensive Water Conservation and Management Plan, which included identification of prioritized Water Management Candidate Measures. The Plan's goals were to create and maintain a strategy to meet water resources needs and opportunities based on the resources of the Tribe; improve coordination and water resources management; preserve ecosystem health, particularly in periods of drought; develop reliable, diversified, and sustainable water supplies for Tribal needs; provide water resources education to Tribal members; and work with regional stakeholders to develop mutually beneficial water projects.

Large Commercial Ranch Water Resources, Ouray County, Colorado. Created augmentation plan engineering including stream impact analysis, Glover analysis and augmentation supply calculations. Designed groundwater wells and coordinated with well driller to construct and test two wells.

Private Ranches and Subdivisions Water Resources and Augmentation Plans, La Plata County, Colorado. Quantify water use and perform engineering calculations to determine out-of-priority depletions to the Florida River. Work includes historical consumptive use analysis, lagging analysis, and ditch loss calculations to determine augmentation requirements and required reservoir releases.

Mapping and GIS

Project Mapping. Creation of maps to display various locations derived from GPS units, aerial imagery, court decrees, and testimonies. Created maps to support projects geospatially and to utilize the analytical capabilities of GIS software.

Map Book Creation for Ditch Company, Colorado. Created a 47-page map book in GIS of the Florida Consolidated Ditch Company's 82-mile long irrigation water conveyance system. Each page provides details of the system at a 1:4,800 scale and is identified on an index map, which provides an overview of the entire water carriage system.

Emergency Parcel Mapping – Gold King Mine Incident, Colorado. Created large-format maps of parcels for La Plata County containing water wells within close proximity to the Animas River to compile a list of well owners. This list was then compared to the list of individuals who called in to have their wells tested for contamination in the wake of the spill, to identify remaining potential wells for sampling.

Bathymetric Survey near Gunnison, Colorado. Collected high accuracy GPS points to develop a stage – storage capacity table as part of a water rights application.

Water Quality

Major Oil and Gas Producers, La Plata County, Colorado. Collected water quality samples from select wells and springs as part of an ongoing water quality monitoring program. Coordinated with landowners to gain access to sites located on private land and delivered samples to the lab for analysis.

Construction Dewatering Sampling, San Miguel County, Colorado. Collected weekly water quality samples from dewatering operations and delivered to a laboratory to analyze for total suspended solids for Colorado Department of Public Health and Environment (CDPHE) compliance.

Soil and Water Pesticide Sampling, Colorado. Collected soil and water samples for pesticide analysis for the Animas Mosquito Control District. Provided ongoing analysis of sample results for biannual sampling events and maintained sample results database.

Major Oil and Gas Producer, San Juan Basin, New Mexico Developed aquifer testing procedures and collected water quality samples to meet the NMOSE Deep Aquifer NOI Regulations.

Hot Springs Development Feasibility, Utah Collected water quality associated with determining feasibility of a potential hot spring resort development. Included researching state regulations for contaminant exposure and comparing observed results to the regulations to identify potential contaminants of concern.

Construction Observation

Residential Curtain Drain. Gathered field information required for design and installation of curtain drain to help with surface water draining issues. Reported construction activities to design engineers, recorded depth to water in piezometers, and coordinated with contractors during installation.

Ranch Development. Construction observation for a large pond, sedimentation pond and channels between the two structures. Liaison between contractors and engineers to clarify design and observe, measure, and confirm work performed by the contractor.

Well Permitting and Accounting

Major Oil and Gas Producers, La Plata County, Colorado. Assisted with determining values for permitted rates and annual appropriations for coalbed methane (CBM) well permits filed with the State Engineer's Office Division of Water Resources. Values were determined by analyzing the past several years of recorded production volumes.

Major Oil and Gas Producers, La Plata County, Colorado. Assembled spreadsheets of annual production data for submittal to the Colorado State Engineer's Office Division of Water Resources.

Annual Water Accounting, Ouray County, Colorado Coordinated with the Division Engineer to develop spreadsheets to record and summarize water production, water depletions and water augmentation requirements as required by the Colorado Division of Water Resources.

Groundwater Investigations

Hydrogeologic Analysis, Durango, Colorado. Conducted a hydrogeologic evaluation to determine potential water supply for a domestic water well on a large private property near Durango. Geologic information and geospatial data from existing wells were incorporated into GIS to help answer the client's questions regarding the local depth to a deeper viable aquifer. Analyses included indicating anticipated formations and potential yields, and a summary of nearby well information.

Large Commercial Orchard Water Resources, Delta County, Colorado. Hydrogeologic analysis to inform location of groundwater wells used for orchard irrigation and employee housing. Performed aquifer testing to calculate aquifer parameters. Calculated water demands, return flows and augmentation requirements needed as part of an augmentation plan.

Geothermal Well Testing, Ouray County, Colorado. Prepared testing protocol and gathered bids from pump contractors to complete injection step testing on a geothermal well. Included coordinating with the EPA for rule authorization approval. Observed and coordinated testing and monitored temperature and pressure during the test.

Groundwater Development in San Juan County, Colorado. Included water quality sample collection and geologic analysis to determine well location and depth.

Deep Aquifer Water Supply Well Development in San Juan Basin, New Mexico Assisted with creation of groundwater model for determining potential surface water depletions associated with Deep Aquifer water production.