



***PAUL A. HOLDER, P.G.***

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## **EDUCATION:**

**Bachelor of Arts, Geological Sciences, Western State Colorado University, 2010**  
**Bachelor of Arts, Political Science, University of Colorado, 2005**

## **PROFESSIONAL REGISTRATIONS AND AFFILIATIONS:**

**National Association of State Boards of Geology, Professional Geologist. State of Utah**  
**License Number 8053574-2250**

## **WORK HISTORY:**

**President and Principal Hydrogeologist**  
***HYDROGEOLOGY SOLUTIONS, INC.* Crawford, Colorado**  
**2017 to present**

**Project Hydrogeologist**  
***HydroGeo, Inc.* Crested Butte, Colorado**  
**2006 to 2017**

## **TECHNICAL SPECIALTIES:**

**Mr. Holder has 15 years of professional experience encompassing:**

- **Design and implementation of surface and ground water sampling programs**
- **Installation and testing of monitoring wells, production wells, and domestic water wells**
- **Design and installation of stream gauging stations**
- **Design and implementation of borehole packer testing applications (nitrogen inflatable systems and IPI SWiPS® system)**
- **Design, installation, and maintenance of meteorological stations**
- **Water Quality and Quantity Data Compilation and Analysis**
- **Field Supervision of hydrologic testing**
- **Design, performance and analysis of aquifer testing**
- **Geologic/Hydrogeologic borehole logging**
- **Permitting procurement for monitoring wells and production wells, well abandonment**
- **Familiarity with surface water, groundwater, and drinking water quality regulations in Alaska, Colorado, Idaho, Nevada, Utah, and Wyoming**
- **Mapping/modeling/analysis in ArcGIS**
- **Technical report preparation**
- **Database management**



## **REPRESENTATIVE EXPERIENCE:**

Mr. Holder has 15 years of experience and is a Project Hydrogeologist. He has implemented field operations and report preparation for various mine hydrologic monitoring and reporting programs. He has designed and implemented pumping tests for aquifer characterization. He has designed and implemented packer tests for aquifer characterization. He has supervised the installation of domestic water wells and monitoring wells. He has prepared technical reports for projects in Alaska, Colorado, Nevada, Washington, and Wyoming. He has supervised the field operations of several water supply evaluation projects. He has experience collecting and compiling data and incorporating it into associated reports. He has experience with 3D geologic modeling/mapping/analysis with ArcGIS. Mr. Holder is proficient AquiferTest, Microsoft Excel, and Microsoft Word, as well as software for a wide range of hydrological and meteorological monitoring equipment. He is also skilled in installing and maintaining all types of hydrologic and meteorological field equipment. He is fluent in Spanish.

## **REPRESENTATIVE PROJECTS:**

### ***ENVIRONMENTAL:***

- ***CRESTED BUTTE MOUNTAIN RESORT, SNODGRASS SKI AREA EXPANSION PROJECT, Mt. Crested Butte, Colorado.*** Assisted in the design and permitting process for a comprehensive groundwater monitoring program on Snodgrass Mountain. Supervised the installation of numerous piezometers and inclinometers on Snodgrass Mountain. Installed and maintained water level and streamflow monitoring equipment, supervised data collection and analysis, and produced the Annual Hydrologic Report.
- ***THOMPSON CREEK METALS COMPANY, MT. EMMONS PROJECT, Gunnison County, Colorado.*** Designed, installed, and maintained a network of surface hydrology and snow depth monitoring equipment. Supervised the operation and maintenance of a meteorological monitoring station. Database management, technical editing, quality assurance and quality control, as well as final preparation and production of the Annual Hydrologic Report.
- ***ICF INTERNATIONAL, BLM, AETHON ENERGY, AND CONOCO PHILLIPS, MONETA DIVIDE OIL AND GAS DEVELOPMENT PROJECT, EIS, Fremont and Natrona Counties, Wyoming.*** Preparation of the groundwater and surface water sections and development of a groundwater model for a large regional oil and gas development project EIS. 3D geologic modeling using ArcGIS for a large-scale MODFLOW groundwater model, compilation and statistical analysis of all available hydrologic testing and water level data for groundwater model calibration.
- ***EDGE ENVIRONMENTAL / BLM, FRAM WHITEWATER UNIT MASTER DEVELOPMENT PLAN EA, Grand Junction, Colorado.*** GIS analysis and mapping of surface water and groundwater resources affected environments and environmental consequences.

- ***KINROSS GOLD USA, KETTLE RIVER TAILINGS FACILITY STUDY, Washington.*** Water quality data compilation and analysis.
- ***DUDLEY & ASSOCIATES, LLC, SEMINOE ROAD COAL BED METHANE PROJECT, Carbon County, Wyoming.*** Assisted with data compilation and evaluation of the EIS.

***COAL MINING:***

- ***MOUNTAIN COAL COMPANY WEST ELK MINE, Gunnison County, Colorado.*** Design, Field supervision and data collection for Hydrologic Monitoring and Reporting program. Database management, technical editing, quality assurance and quality control. Preparation and production of the Annual Hydrologic Report and Permit Revisions as part of the mine's permit requirements for the Colorado Division of Reclamation and Mine Safety.
- ***BOWIE COAL COMPANY, BOWIE COAL MINE, Gunnison and Delta Counties, Colorado.*** Design and supervision of deep borehole packer testing and associated data collection, compilation, and analysis, and report preparation.
- ***AECOM / USACE, CHUITNA COAL PROJECT SEIS, Kenai Peninsula Borough, Alaska.*** Research, analysis, and authoring of the Affected Environments and Environmental Impacts sections for surface water and groundwater for the EIS.

***METAL/NONMETAL MINING:***

- ***COEUR THE PRECIOUS METALS COMPANY, ROCHESTER MINE, Pershing County, Nevada.*** Completed long term pumping test and analysis of the mine water supply well. Supervised the installation of numerous monitoring and production wells. Ongoing evaluation and monitoring of the mine production well network and water supply system.
- ***NEVADA COPPER, TETRATECH, PUMPKIN HOLLOW PROJECT, Yerington, Nevada.*** Design and supervision of deep borehole packer testing and associated data collection, compilation, and analysis, and report preparation. Design and supervision of long term pumping tests. Implemented a comprehensive ground water monitoring program for the project area.
- ***CROSSHAIR CORPORATION, THE BOOTHEEL PROJECT, Albany County, Wyoming.*** Design and implementation of a comprehensive ground water monitoring program for the project area. Supervision of the installation of monitoring wells. Design and supervision of long term pumping tests for ground water characterization.
- ***EAGLE INDUSTRIAL MINERALS, THE POORMAN PROJECT, Prince of Wales Island, Alaska.*** Design and implementation of the surface water and ground water monitoring program.

- ***HDR / RIO TINTO, KENNECOTT UTAH COPPER CORPORATION, Salt Lake City, Utah.*** GIS analysis and preparation of maps/figures for the Tailings Impoundment Expansion Project EIS and assisted with preparing groundwater and surface water Affected Environment sections of the EIS.
- ***UCORE RARE METALS, BOKAN MOUNTAIN RARE EARTH PROJECT, Prince of Wales Island, Alaska.*** Responsible for down-stage hydrologic packer testing in several exploration boreholes using the IPI SWiPS<sup>®</sup> system, installation and hydrologic testing of several monitoring wells, analysis of field data, and associated report preparation.

***WATER SUPPLY:***

- ***COCKRELL INTERESTS, LLC, THE RESERVE ON THE EAST RIVER. Gunnison County, Colorado.*** Water Supply Evaluation, Field supervision of drilling and water well installation, data collection, compilation, and analysis, and report preparation.
- ***TRAPPERS CROSSING AT WILDCAT, Crested Butte, Colorado.*** Designed and implemented testing for a community water well and storage system at the Trappers Crossing Subdivision. Prepared a report analyzing the current state of the system and providing recommendations for the implementation and use of the system. Supervised the drilling and installation of numerous domestic water wells.
- ***STAR MOUNTAIN RANCH, Gunnison County, Colorado.*** Water Supply Evaluation, Field supervision of drilling and water well installation, data collection, compilation, and analysis, and report preparation.
- ***RED MOUNTAIN RANCH, Gunnison County, Colorado.*** Water Supply Evaluation, Field supervision of drilling and water well installation, data collection, compilation, and analysis, and report preparation.
- ***SMITH HILL RANCHES, Crested Butte, Colorado.*** Water Supply Evaluation, Field supervision of drilling and water well installation, data collection, compilation, and analysis, and report preparation.
- ***WILDER ON THE TAYLOR, Gunnison County, Colorado.*** Water Supply Evaluation, Field supervision of drilling and water well installation, data collection, compilation, and analysis, and report preparation.