Eric J. Harmon, P.E., Principal
Hydrogeologist and Geophysicist, HRS Water Consultants, Inc.

EDUCATION

B.Sc., Geophysical Engineering, Colorado School of Mines, 1978
Prof. E., Hydrogeology, Colorado School of Mines, 1991

EXPERIENCE

Mr. Harmon has extensive experience in exploration and development of groundwater resources, ground water/surface water interaction, water rights analysis for transfers and valuation, hydrogeology, water-well engineering, and geophysics. He is an expert in the disciplines of water-well design and testing, aquifer evaluations related to water supply, cost analysis for ground water development, and geophysical methods for ground water exploration. He has substantial project management experience in ground water projects for development of potable water supplies, irrigation water, water rights disputes, and water quality issues. Prior to entering consulting practice in 1979, he was geophysical party chief for a geothermal exploration project in Hawaii. Following are some examples of projects he has supervised or participated in:

Evaluated hydrogeology, ground water – surface water interactions, consumptive use of water, and water rights impacts due to well pumping in the Camp Verde area, Arizona, and testified on behalf of NBJ Ranch in Request for Injunction hearing initiated by the Salt River Project (SRP).

Project Manager for the ground water component of the Rio Grande Decision Support System project in the San Luis Valley, Colorado, for the Colorado Water Conservation Board and Colorado Division of Water Resources.

Project Manager for ground water resources, including assessment, development, testing, and modeling of the alluvial and bedrock aquifers in the northeast Denver metropolitan area, for South Adams County Water & Sanitation District.

Evaluated the hydrogeology and ground water – surface water interactions represented in a ground water model of the Eastern Snake River Plain aquifer, southern Idaho, on behalf of Idaho Power and Clear Springs Foods, Inc.

Project manager and lead researcher on hydrogeologic studies and ground water models designed to help protect water rights and to help resource specialists interpret ground water – surface water interactions, Great Sand Dunes National Park, San Luis Valley, Colorado, for the National Park Service.

Evaluated hydrogeology and ground water – surface water interactions; analyzed applicability of different modeling methods, and testified in a hearing on the San Pedro River Basin as part of the Gila River General Water Rights Adjudication, Arizona, for Phelps-Dodge and AZ Public Service Co.

Analysis of the historic use and transferability of water rights located in the Cherry Creek Basin, Colorado, for a change of use application, for the Cherry Creek Project Water Authority.

Hydrogeologic analysis of proposed changes of use for certain water rights located on the Cache la Poudre River, Colorado, for the New Cache la Poudre Irrigating Company.

Analyzed a computer model of the impacts of irrigation well development in the lower Laramie River basin, Wyoming, for the Wyoming Attorney General's Office.

Valuation of water rights for a conservation easement, Chaffee County, Colorado, for the Kelly Ranch.

Valuation of various bedrock ground water rights in the Denver Basin, Colorado (various evaluations, 1985 – present).

Supervised testing of approximately 20 irrigation wells for efficiency and power conversion coefficient, lower North Platte River Basin, Torrington-Fort Laramie area, Wyoming, for the Wyoming Attorney General's Office.

Conducted a facilities assessment, including estimation of replacement and rehabilitation cost, of over 30 shallow and deep water wells at the Monte Vista National Wildlife Refuge, San Luis Valley, Colorado, for the U.S. Fish and Wildlife Service.

Economic analysis of wellfield development in the Lost Creek Designated Ground Water Basin, Colorado, for South Adams County Water & Sanitation District.

Designed and supervised a feasibility and well rehabilitation program to identify zones of water production and quality differences, and improve water quality, in a confined aquifer production well for the City of Alamosa, Colorado.

Project Manager of a three-year water supply improvement project to upgrade from surface intakes to ground water supplies, to prevent contamination and to mitigate whirling disease at five fish hatcheries owned and operated by the Colorado Division of Wildlife.

Project Manager for a National Wildlife Refuge baseline study of ground water, water rights, water quality, wetlands, and land-use for a proposed national wildlife refuge in the South Platte Valley, Colorado, for the U.S. Fish & Wildlife Service.

Supervised and conducted aquifer tests of unconfined and confined aquifer water wells for over 30 municipalities, water districts, and private firms in Colorado.

Appraisal analyses of fair market value of over 30 ground water and surface water rights for various purposes including condemnation, insurance, and conservation easements.

Developed a plan for augmentation for the University Of Denver College Of Law to allow irrigation re-use of foundation drainage water.

Developed and taught United Nations sponsored training programs in water-well design, drilling, and testing for drilling supervisor trainees from Botswana.

Invited lecturer to graduate classes in water well design and testing, Colorado School of Mines Department of Geology and Geological Engineering.

Invited lecturer on hydrogeology and water rights at the University Of Denver College Of Law (1992 – 2010).

PROFESSIONAL REGISTRATION

Colorado - Professional Engineer #20418
Wyoming - Professional Engineer #5030
Nebraska - Professional Engineer #8834
Arizona – Professional Engineer # 38144

PROFESSIONAL AFFILIATIONS

Geological Society of America (Hydrogeology Division)
Colorado Ground Water Association (past Board member)
American Water Resources Association (Colorado Chapter)
Engineers Without Borders (Professional Mentor)

PUBLICATIONS

Harmon, E.J, January 2010, "Experiences in Malawi and Peru for Engineers Without Borders USA". Abstract and presentation for Colorado Ground Water Association.

Harmon, E.J., 2006, "Subsurface Geohydrology of the San Luis Basin". Abstract and presentation, "Geology for Water: Alamosa Geology Conference" U.S. Geological Survey and Adams State College.

Harmon, E.J. 2002, "Extensometer Data as an Alternative Means of Determining Specific Storage". Abstract and presentation, Geological Society of America Annual Conference.

Harmon, E.J., 2000, "Arsenic and Old Wells – Mitigation of Arsenic in Confined Water Wells, San Luis Valley, Colorado". Presented to Colorado Ground Water Association.

Harmon, E.J., 1998 "Ground Water in the San Luis Valley". In Ground Water Atlas of Colorado, Colorado Ground-Water Association.

Harmon, E.J., 1994, "Hydrogeology of Sand Creek, Great Sand Dunes National Monument, Colorado." Presented to Geological Society of America Rocky Mountain Section Annual Meeting.

Harmon, E.J., 1994, "Potential for Land Subsidence Due to Confined Aquifer Pumping in the San Luis Valley, Colorado." Presented to Geological Society of America Rocky Mountain Section Annual Meeting.

Harmon, E.J., and M. F. Hajicek, 1992, Schlumberger Soundings and Sand-Column Resistivity Testing for Determining Stream-Aquifer Connection, Great Sand Dunes National Monument, Colorado, in Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems, Society of Engineering and Mineral Exploration Geophysicists, pp. 275-290.

Harmon, E.J., 1992, Exporting Ground Water from Colorado's San Luis Valley: AWDI'S Nontributary Claim, in Symposium Proceedings "Uncovering the Hidden Resource: Groundwater Law, Hydrology, and Policy in the 1990's." Natural Resources Law Center, University of Colorado at Boulder.

Harmon, E.J., 1992, "Liquid Assets and Paper Water: Valuation of Ground Water under Colorado's Prior-Appropriation System - Traditional Basis and New Issues." Presented to Environmental Protection Agency Conference: Clean Water and the American Economy. Washington, D.C., October, 1992.

Hanna, T.M., and E.J. Harmon, 1989, "An Overview of the Historical, Stratigraphic, and Structural Setting of the Aquifer System of the San Luis Valley", in Harmon, E.J., ed., Water in the Valley. Colorado Ground Water Association 8th Annual Field Trip Guidebook, p. 1-34.

Harmon, E.J., 1989, "Ground Water Recharge and Discharge in the Confined Aquifers of the San Luis Valley", in Harmon, E.J., Ed., Water in the Valley. Colorado Ground Water Association 8th Annual Field Trip Guidebook, p.35-48.

Harmon, E.J., 1989, "Subsidence Potential Due to Confined-Aquifer Pumping in the San Luis Valley", in Harmon, E.J., Ed., Water in the Valley. Colorado Ground Water Association 8th Annual Field Trip Guidebook, p.177-187.

Harmon, E.J., and T.H. Gilmer, 1989, "San Luis Valley Field Trip Road Log", in Harmon, E.J., Ed., Water in the Valley. Colorado Ground Water Association 8th Annual Field Trip Guidebook, p. 279-292.

Zimpher, G.L., E.J. Harmon, and, B.C Boyce, 1988,"Disposal of Production Water from Oil and Gas Wells in the Northern San Juan Basin, Colorado", In Geology and Coal-bed Methane Resources of the Northern San Juan Basin, Colorado and New Mexico. James E. Fassett, Editor. Rocky Mountain Association of Geologists.

Gilmer, T.G., E.J. Harmon, D.M. Kronig, 1986, "Estimation of Alluvial Aquifer Characteristics from Resistivity Soundings", in Surface and Borehole Geophysical Methods and Ground Water Instrumentation Conference Proceedings, National Water Well Association.

Harmon, E.J., 1984, "Investigation of a Previously Unexplored Basaltic Aquifer Using Complementary Geophysical Methods". In NWWA/EPA Conference: Surface and Borehole Geophysical Methods in Ground Water Investigations.

Harmon, E.J. (Editor), 1984, Mine, Mountain, and Glacial Geology of the Front Range, Mosquito Range, and South Park. Colorado Ground Water Association Annual Field Trip Guidebook.

Harmon, E.J., 1984, "Outline of the Geology of South Park", in Harmon, E.J., ed., Mine, Mountain and Glacial Geology of the Front Range, Mosquito Range, and South Park. Colorado Ground Water Association Annual Guidebook, p.32-34.

EXPERT WITNESS TESTIMONY 2005-2010 Eric J. Harmon, P.E.				
Case	**Client**	**Date**	**Location**	**Testimony**
Applications for water rights transfer in the upper Gila River valley, AZ CV 31-0061-TUC-SRB	Freeport-McMoRan Corporation	12/2009	Denver, CO	Deposition testimony
Salt River Project request for injunction of well pumping	NBJ Ranch	10/2009	Phoenix, AZ	Trial testimony
Dispute between well owner and well contractor, as to whether well construction met standards. Case no. 2008CV183	Charles & Angela Acker	4/2009	Arapahoe County District Court, Littleton, CO	Deposition testimony
Wendell vs. Wendell – appraised valuation on bedrock water rights Case no. 07DR1567	Steven J. Wendell	2/2009	Douglas County District Court, Castle Rock, CO	Hearing testimony
Salt River Project request for injunction of well pumping	NBJ Ranch	1/2009	Phoenix, AZ	Deposition testimony
In-place ground water right for Great Sand Dunes National Park Case no. 2004CW35	National Park Service	8/2008	Division 3 Water Court, Alamosa, CO	Trial testimony
Wet meadow drainage impact on a nearby spring Case no. 06CW024	Kent Mace	3/2008	Division 2 Referee's hearing, Pueblo, CO	Hearing testimony
Salt River Project request for injunction of well pumping	NBJ Ranch	3/2008	Phoenix, AZ	Deposition testimony
Clear Springs and Snake River Farm Delivery Call	Clear Springs Foods, Inc.	12/2007	Dept. of Water Resources, Boise, Idaho	Deposition and Hearing testimony
Whether a water district should serve a proposed development. Case No. 06CV780	Byers Water & Sanitation District	10/2007	Arapahoe County District Court, Colorado	Deposition testimony
Hearing on award of fees and costs in a priority call case. Case No. 05CV47	Wayne & Frances Booker	8/2007	El Paso County District Court, Colorado	Trial testimony
Application for relocation of senior wells in a designated basin. Case No. 04CV2800	Wayne & Frances Booker	10/2006	El Paso County District Court, Colorado	Trial testimony
Rules for new confined aquifer well development, San Luis Valley Colorado Case No. 04CW24	Colorado State Engineer's Office	2/2006	Division 3 Water Court, Alamosa, CO	Deposition and trial testimony
Dispute between well owners on well to well injury	Mr. Scott Hinton, Trailside Subdivision	3/2005	Colorado State Engineer's Office, Denver, CO	Hearing testimony