RAY MOORES, P.E.
CIVIL ENGINEER/PROJECT MANAGER

REGISTRATIONS
Professional Engineer

Wyoming No. 10702

Colorado No. 43036

EDUCATION
M.S., Civil Engineering, University of Wyoming. 2002

B.S., Civil Engineering, University of Wyoming. 2000

SPECIALIZED TRAINING
ASDSO Advanced Technical Seminar "Slope Stability for Embankment Dams", October 2008

HEC-RAS

Certified MSHA Impoundment Inspector

MSHA Mine Safety Trained

Troxler Nuclear Density Gauge Certified

PRESENTATIONS AND PUBLICATIONS
Authored "Operation Criteria for a Moveable Bed Flume in the Hydraulics Laboratory at the University of Wyoming", Masters Thesis, Department of Civil Engineering, University of Wyoming, 2002

Presenter "Ross ISR Project Groundwater Modeling" U2011, September 2011

Temrezli ISR Uranium Project Preliminary Economic Assessment, July 2013

Presenter "Potential Benefits of Numerical Groundwater Modeling to an Operational Wellfield", U2013, October 2013.

CIVIC MEMBERSHIPS
Boy Scouts of America Scoutmaster

Ray Moores is a civil engineer with 12 years of experience in hydrology and hydraulics, in addition to his masters' research on sediment transport. His scholastic background in hydrology/hydraulics theory has given him an excellent basis for his work in the Civil/Water Resources Department. Mr. Moores has been involved with many projects including dam design; coal bed natural gas water discharge design, layout and permitting; hydrologic and hydraulic analyses; channel design and reconstruction; GPS surveying; and groundwater modeling.

PROFESSIONAL EXPERIENCE
Civil Engineer/Project Manager, *WWC Engineering*, Sheridan, Wyoming. 2002 - Present

Teaching Assistant, University of Wyoming - Civil and Architectural Engineering Department, Laramie, Wyoming. 2001 – 2002

PROJECT EXPERIENCE
Groundwater

Oversaw development of the groundwater model developed for RAMACO to assess potential impacts of the proposed Brook Coal Mine near Acme, WY.

Developed a groundwater model to asses Strata Energy's Ross ISR Uranium Project.

Developed and calibrated a groundwater model to predict the impacts to groundwater from CBNG development within the Atlantic Rim project area near Baggs, Wyoming.

Updated the Dry Fork Groundwater model associated with coal mining in Campbell County, Wyoming.

Developed a groundwater model to assess the fate of produced water generated during the production of coal bed natural gas in Johnson County, Wyoming.

Prepared minor updates for various groundwater models for coal mines within the Powder River Basin.

Prepared calculations for well dewatering efforts at various coal mines within the Powder River Basin.

Prepared aquifer testing, analyzed data, and prepared summary reports for aquifer tests for ISR uranium mines, coal mines, and CBNG production.

Hydrology, Hydraulics and Water Resources

Project Manager for Horse Creek Flood Control Structures, Campbell County, Wyoming. Project included preparation of construction drawings and construction administration during construction of 5 flood control reservoirs with a total storage capacity of 1,293 ac-ft. As well as construction of a 6.2-mile dewatering pipeline and three pump stations capable of pumping a total of 10,300 gpm.

Prefeasibility evaluation for a small hydroelectric system near Big Horn, Wyoming.

Prepared several HEC–HMS Hydrologic evaluations in support of permitting and design of reservoirs, mines, and other infrastructures.

Project Manager for the design of an irrigation pump station diversion along Crazy Woman Creek in Wyoming.

Involved with the design of several large dams including initial geotechnical sampling, overseeing and directing geotechnical testing, preparing embankment seepage and slope stability computer analysis, designing spillways and hydraulic outlet structures, hydrologic flood analysis and other miscellaneous aspects of embankment design.

Prepared several HEC-RAS models in support of design and permitting activities for CBNG operations, reservoir design, bridge design and mine diversion designs.

Geotechnical Regulatory Compliance and Construction

Project Manager for preparation of a preliminary economic assessment (PEA) for the Temrezli ISR Uranium Project. Project located near Sorgun, Turkey and is being advanced by an Australian mining company.

Helped prepare Federal Environmental Impact Statements (EIS) and Environmental Assessments (EA) for conventional oil and gas, coal bed natural gas, and uranium mining projects.

Project Manager in charge of a multi-discipline team responsible for permitting a large conventional uranium mine in Colorado.

Project Manager for the construction portion of the Thompson Creek Road Clear Creek bridge crossing replacement project.

Project Manager for MSHA mandated highwall slope stability evaluations for two open pit coal mines in Wyoming.

Managed projects providing engineering assistance for CBNG production companies within the Tongue River, Powder River, and Belle Fourche River drainages.

Prepared slope stability models and seepage analyses for several Safety of Dams reservoirs within the Powder River Basin of Wyoming using GeoStudio® (SEEP/W and SLOPE/W) computer program.

Worked on many projects in the coal bed natural gas (CBNG) industry primarily with permitting through the Bureau of Land Management, the Wyoming Department of Environmental Quality, the Army Corps of Engineers and the Wyoming State Engineers Office.

Prepared slope stability model using GeoStudio® (SLOPE/W and QUAKE/W) to evaluate the stability of a proposed Belle Fourche River diversion.

Project Manager for PAPI replacement and slope failure repair at the Johnson County Airport.