Gray Wolf Engineering Corp. ***George H. Glos, III***
Phone; 520-229-6151, E-mail; graywolfeng@qwest.net ***President***

Forensic Engineering
Civil Engineering
Geotechnical Engineering
Dam Safety & Slope Stability
Storm Water Engineering
Civil Engineering
Project Management
Settlement Design and Analysis
Tailings and Water Dams
Foundation Design & Analysis

SUMMARY

I have a total of over 30 years experience providing engineering services in the area of geotechnical engineering for dams, leach pads, landfills, foundations, soil dynamics and liquefaction evaluations of dams and nuclear facilities, and geosynthetic liner systems. I have provided expert testimony on the effects of expansive soil or poorly compacted fill on housing developments and individual residential foundations. In addition to geotechnical engineering, I have offered expert testimony on drainage issues for developments, slopes, and masonry fences. I have authored approximately 120 expert reports in the last four years and have been deposed dozens of times. I also have testified in three trials.

I have published over a dozen professional papers at national and international conferences and have made presentations to the Arizona and Phoenix Bar Associations. I have performed technical reviews of the geotechnical aspects of multi-million dollar industrial facilities, and have acted as an expert witness on behalf of Arizona State University and the Maricopa County Flood Control District.

I was the principal engineer overseeing design and construction of a 235 acre HDPE lined pond that, at the time, was the world's largest. I was a member of the US Committee on Large Dams, and sat on the Tailings Dams Subcommittee. I have been a member of the D 35 Committee of the American Society of Testing and Materials for over 10 years. I am a former member of the Geosynthetic Research Institute that developed most of the geosynthetic design procedures and methodologies currently in use today. I chaired a session on Failure of Tailings Dams at the 1999 SME National Convention held in Denver.

CREDENTIALS

BS, Geological Engineering; University of Missouri-Rolla, 1974
Graduate Studies in Civil Engineering; University of Missouri-Rolla, 1976
Arizona State University. 1990

Registered Civil Engineer; Arizona, California, Nevada, and New Mexico
Registered Geotechnical Engineer; California

Registered Engineering Geologist; Oregon
Registered Geologist; Oregon

SELECTED EXPERIENCE – Expert Testimony

Sun Devil Stadium, Tempe, Arizona *Chairman of the Board of Consultants examining the failure of the north end of Sun Devil Stadium on behalf of Arizona State University. Provided approximately 40-hours of deposition on this case.*

Signorelli Building, Safford, Arizona *Provided a damage assessment, repair recommendation and expert testimony on construction vibrations and collapsible soil effects on a commercial building.*

Gillespie Dam Failure, Maricopa County, Arizona *Provided expert engineering services and testimony on the failure of Gillespie Dam on behalf of the Flood Control District of Maricopa County.*

Stonegate Masonry Perimeter Fences, Mesa, Arizona *Provided expert engineering services and testimony with respect to defective perimeter fences around the development.*

Camelot Canyon Retaining Walls, Chandler, Arizona *Provided expert engineering services and testimony with respect to geotechnical and structural aspects of retaining walls located in the subdivision.*

Foothills Gateway Perimeter Fences, Chandler, Arizona *Provided expert engineering services and testimony with respect to defective perimeter walls around the development. This work resulted in the replacement of several thousand feet of masonry wall.*

SK Ranch Development, Casa Grande, Arizona *Provided expert engineering services and testimony with respect to civil and hydrologic engineering issues at the development on behalf of the homeowners association.*

Eagle Mountain Development, Fountain Hills, Arizona *Provided expert engineering services and testimony with respect to slope stability, hydrologic, and erosion issues in the development on behalf of the homeowners association.*

Centercrest Condominiums, Mesa, Arizona *Provided expert engineering services and testimony with respect to geotechnical and hydrologic engineering issues at the development on behalf of the condominium owners association.*

Springs at Santa Rita, Green Valley, Arizona *Provided a damage assessment of the condominiums.*

Thatcher School District, Thatcher, Arizona *Performed a technical review of construction procedures used in for slab construction.*

West Point Town Center Development, Surprise, Arizona *Provided expert engineering services and testimony on geotechnical issues related to expansive soils on behalf of the homeowners.*

SELECTED EXPERIENCE – Design

BL Leach Pad, Miami, Arizona. *Performed the Peer Review for a 224 million-ton Leach Pad located at Cyprus Miami site.*

Panna Maria Project, Karnes County, Texas*. As Project Manager, I directed the final design for a temporary wastewater evaporation pond at the Panna Maria site, Karnes County, Texas.*

Magistral Gold Project, Sinaloa, Mexico. *As Project Manager, I directed the pre-feasibility level design for a 50-million metric tons heap leach pad for the Magistral Gold Project in Sinaloa, Mexico.*

Erdenet Copper Project, Erdenet, Mongolia. *As Project Manager, I reviewed and evaluated dam construction techniques used during the Siberian winter at the Erdenet Copper Project, Mongolia. This work was performed on site in Mongolia.*

Palo Verde Nuclear Station, Phoenix, Arizona*. I was principal engineer overseeing the design and construction of a 235-acre evaporation pond located at the Palo Verde Nuclear Generating Station. At the time, this was the largest construction project in the world using HDPE liner technology.*

Settlement Monitoring Program, Salt Lake City, Utah*. As Project Engineer, I developed a settlement-monitoring program for a tailings embankment and associated piping and pumping facilities. Instrumentation included a robotic transit, inclinometers, and strain gages connected to a fully automated data acquisition system.*

Panna Maria Project, Karnes, County, Texas. *As Project Manager, I directed the pre-feasibility level design for a uranium by-product disposal facility at the Panna Maria site, Karnes County, Texas.*

Palmarito Tailings Impoundment, Sinaloa, Mexico*. As Project Manager, I directed the pre-feasibility level design for a 5-million metric ton tailings impoundment for Lluvia de Oro Inc. in Sinaloa, Mexico.*

In-tank Precipitation Facility, Aiken, South Carolina*. As Principal geotechnical engineer, I performed the static and dynamic deformation analysis for the In-tank Precipitation Facility slopes at the U.S. Department of Energy's Savannah River Site.*

Fly Ash Storage Facilities, Four Corners Plant, Farmington, New Mexico. *I developed the master plan for the Ash Storage Facilities at the Four Corners Steam Electric Station. The work involved cost estimating, engineering design, and facility permitting associated with three dam raises, and two new dams. Projects involved conceptual through final design, permitting, and construction management. Combined project costs approximated 60 million dollars over 30 years.*

Consolidated Incineration Facility, Aiken, South Carolina*. I was principal geotechnical engineer for the Consolidated Incineration Facility at the U.S. Department of Energy's Savannah River Site.*

Latewash Facility, Aiken, South Carolina. *As principal geotechnical engineer I performed the static and dynamic deformation analysis for the In-tank Precipitation Facility slopes at the U.S. Department of Energy's Savannah River Site.*

Replacement Tritium Facility, Aiken, South Carolina*. I was principal geotechnical engineer for the Replacement Tritium Facility at the U.S. Department of Energy's Savannah River Site.*

H-Area Tank Farm, Aiken, South Carolina*. I was principal geotechnical engineer for the H-Area Tank Farm at the U.S. Department of Energy's Savannah River Site.*

Cobre Mill Expansion, Silver City, New Mexico. *As Project Manager, I directed the geotechnical investigation and design for a mill expansion at Cobre Mine near Silver City, New Mexico.*

Silver Bell Mine, Marana, Arizona*. As Project Manager, I directed the geotechnical exploration and design for a new SX-EW plant and tank farm as a subcontractor to Bechtel at the ASARCOS Silver Bell Mine near Marana, Arizona.*

Consolidated Incineration Facility, Aiken, South Carolina*. I was principal geotechnical engineer for the Consolidated Incineration Facility at the U.S. Department of Energy's Savannah River Site.*

SELECTED EXPERIENCE - Management

President, Gray Wolf Engineering, Tucson, Arizona. Acted as an independent consultant providing expert testimony, geotechnical, environmental and civil engineering services throughout the state.

Division Manager, Professional Service Industries, Tempe, Arizona. Assumed control of the 20-man geotechnical engineering and construction materials testing office which had been losing money and returned it to profitability.

Geotechnical Engineering Department Head, The Winters Company, Tucson, Arizona*. Responsible for all geotechnical engineering work company-wide. This includes developing*

scopes, cost estimates and engineering reports and design recommendations for dams, waste ponds, foundations for mining facilities, leach pads, and tailings impoundments and the supervision of sub-tier consultants.

Project Manager, WESTEC, Inc., Tucson, Arizona*. Responsible for all design work conducted in the Tucson office. This included developing scopes, cost estimates, and engineering reports and design recommendations for dams, waste ponds, foundations for mining facilities, leach pads, and tailings impoundments in the US and Mexico. Supervised a winter dam construction project in Mongolia. Developed a marketing program for the Tucson office.*

Geotechnical Engineering Specialist, Bechtel Savannah River, Inc., North Augusta, South Carolina. *Responsible for all geotechnical work conducted for design engineering and in support of plant operations. This included the direction of field investigations, in-house design activities and outside consultants. During the course of this work in-house studies were performed which advanced the state-of-the-art in liquefaction analysis. Supervised the design of several solid, hazardous waste, and mixed waste facilities. During this time I held a Department of Energy "Q" class security clearance.*

Geotechnical Engineering Manager, Engineering Projects Division – Design Engineering. *Responsible for all geotechnical work conducted for design engineering and in support of plant operations. This included the direction of field investigations, in-house design activities and outside consultants. Work Included being the principal engineer on major Department of Energy Projects. These included the Replacement Tritium Facility, Consolidated Incineration Facility, and closure of several Hazardous and Mixed Waste sites. During this time held a Department of Energy "Q" class security clearance.*

Senior Geotechnical Engineer, Arizona Public Service Compnay, Phoenix, Arizona, Nuclear Engineering Division, (Palo Verde Nuclear Generating Station), *As principal geotechnical engineer he was responsible for all geotechnical work conducted for the station. This included the direction of field investigations, in-house design activities and outside consultants. Principal engineer for what at the time was the world's largest High-Density Polyethylene liner pond. I also conducted the Geotechnical Design Basis Review of the Palo Verde Station.*

Senior Geotechnical Engineer, Fossil Engineering Division. *Responsible for all geotechnical work performed on a company-wide basis. This included the definition of the scope of work, preparation of the Request for Proposal, specifications, bid packages, and their evaluation for dams, power plant structures, and transmission lines. Projects included the Master Plan for the Ash Storage Facilities at the Four Corners Steam Electric Station. The work scope included feasibility level studies and the design of several dams, and modifications to several others. The work included design, construction management, and licensing activities. This included direct supervision of the more intricate projects.*

EMPLOYMENT HISTORY

1999 – Present	*Gray Wolf Engineering Corporation –President*
1998 - 1999	*Professional Services Industries – District Manager*
1998 – 1998	*Gray Wolf Engineering Corporation –President*
1997 – 1998	*The Winters Company – Geotechnical Department Head*
1996 – 1997	*WESTEC, Inc. – Project Manager*
1990 - 1996	*Bechtel Savannah River – Engineering Specialist*
1980 - 1990	*Arizona Public Service Company – Senior Engineer*
1978 - 1980	*F.M. Fox & Associates, Inc – Project Manager*
1976 - 1978	*Black and Veatch Consulting Engineers – Staff Engineer*
1975 – 1976	*Graduate School – University of Missouri - Rolla*
1974 - 1975	*Engineer's Testing Laboratory – Staff Engineer*

PUBLICATIONS

How to Handle Clients' Construction Defect Issues in Light of the New Statute, *participated in a short course for the Construction and Real Property Sections of the Phoenix Bar Association, September 24, 2002.*

The Role of a Professional Engineer in a Construction Defect Case, *Glos, G.H., Real Property Section Arizona Bar Association Luncheon, Tucson, Arizona, February 13, 2001.*

Lessons Learned From significant Tailings Incidents, *Glos, G.H. Canadian Dam Association, 3rd Annual conference, Regina, Saskatchewan, Canada, September 16-21, 2000.*

Thirty Years of Tailings Experience, What Have We Learned? *Glos, G.H., Tailings Dams 2000, Association of State Dam Safety Officials/US Committee on Large Dams, March 28-30, 2000, Las Vegas, Nevada.*

Use of Administrative Controls to Increase the Level of Safety of Tailings Embankments, Glos, G. H., SME National Convention, Denver, Colorado, March 3, 1999.

The Stava Incident, Glos, G. H., SME National Convention, Denver, Colorado, March 3, 1999.

Size Optimization of Lined Ponds, Glos, G. H., The Mining Record, Denver, Colorado, Vol. 108, No. 36, September 3, 1997.

Lessons Learned from a Large Pond Geomembrane Liner Failure, I.D. Peggs, G.H. Glos, and H.E. Haxo, Geosynthetics '95, Nashville, Tennessee, February 1995.

A Geomembrane Liner Failure, Design, Installation, and Communications Lessons Learned, I.D. Peggs, G.H. Glos, and H.E. Haxo, Fifth International Conference on Geotextiles, Geomembranes, and Related Products, Singapore, September 1994.

The Elements of a Geomembrane Failure and its Remediation, Glos, G.H. and Peggs, I, ASTM Workshop on Geosynthetic Forensic Analysis and Testing, Atlanta, GA, June 1993.

Caissons in Uplift in Sandy Soils, Glos, G.H., ASCE, Foundation Engineering Congress, Evanston, Illinois, 1989.

Chemical Attack of a Clay Shale, Glos, G.H., and Hinkle, D., International Conference on Case Histories in Geotechnical Engineering, St. Louis, Missouri, 1984.

Rock Sockets in Soft Rock, Glos, G. H. and Briggs, O.H., ASCE, Journal of the Geotechnical Engineering Division, Vol. 109, No. 4, April 1983.

AWARDS

"Vice President's Award" Engineering and construction Services Division Award for outstanding performance and exemplary commitment to Total Quality, Westinghouse Savannah River Company, January 4, 1995.

"Vice President's Award" Engineering and Projects Division Award for outstanding performance, Westinghouse Savannah River Company, August 10, 1994.

"***E - Award***" General Manager's Award for exemplary performance, Engineering and Projects Division, Westinghouse Savannah River Company, June 1991

"***Total Quality***" Awarded by Waste Management Programs, Westinghouse Savannah River Company, March, 1991.

"***Quality Plus Engineering Award***" Arizona Public Service Company, Awarded for the design and execution of the Pulverizer Foundation Grouting Project, July, 1984.