

Biographical Sketches of the Authors

Scott L. Barnes - received a B.S. in geophysics from the Pennsylvania State University in 1982. He has been a hydrogeologist in the Pennsylvania Department of Environmental Protection's (PA DEP) Hawk Run District Mining Office since 1988. From 1986 to 1988 he was a mining specialist in the Greensburg District Mining Office. He was employed as a geologist with Skelly and Loy Engineers-Consultants, Clearfield, PA from 1983 until 1986. Scott has done postgraduate coursework in hydrogeology at Pennsylvania State University. His research interests include the effectiveness of imported alkaline material on the water quality of surface coal mines and the effects of overburden removal on aquifers within a fractured hydrogeologic setting.

Keith B. C. Brady - graduated with a B.A. from Alaska Methodist University with majors in geology and anthropology (archaeology), and has a M.S. from the University of Maine in Quaternary geology. He has been a hydrogeologist with the PA DEP's Bureau of Mining and Reclamation since 1986. From 1980 to 1986 he was a hydrogeologist at PA DEP's Ebensburg District Mining Office. Keith helped develop the Office of Surface Mining's Acid-Forming Materials course, and is a registered professional geologist in Pennsylvania. His professional interests are geologic controls on rock chemistry/mineralogy and their subsequent influence on water chemistry.

Thomas Callaghan - is a registered professional geologist with the underground mining section of the Bureau of Mining and Reclamation. He received a B.S. in geology from La Salle University. Tom has worked for the PA DEP since 1980. His professional interests are impacts of mining and refuse disposal on the hydrologic balance, mining impacts to water supplies, and the stratigraphy, hydrogeology and geochemistry of the coal measures of PA.

Charles A. Cravotta III - is a hydrologist with the U.S. Geological Survey-Water Resources Division and is a registered professional geologist in Pennsylvania. He received a B.A. in Environmental Sciences from the University of Virginia and M.S. and Ph.D. degrees in geochemistry and mineralogy from the Pennsylvania State University. As project chief, his current responsibilities include field and laboratory studies on geochemical controls and treatment of drainage from coal mines in Pennsylvania. These studies include effects on limestone dissolution from metal hydrolysis and biofilms; microbial pyrite oxidation from nutrients in sewage sludge and fertilizer; reduction of pyrite oxidation by alkaline addition and selective handling; and water chemistry due to water-rock interactions along groundwater flow paths.

Alfred Dalberto - graduated with a B.S. in mineral processing engineering from the Pennsylvania State University in 1970. He has worked with the Bureau of Mining and Reclamation since 1993. He has been employed by PA DEP since 1972 working in the abandoned mine, dam inspection and stream improvement, sewage treatment plant construction, and the hazardous waste permitting programs.

Jane I. Earle - received a B.A. from Temple University, with a major in biology. She has a M.S. from West Virginia University where she studied aquatic biology. Jane has worked for the PA DEP since 1980. For 15 of those years she worked as a water pollution biologist for the Bureau of Mining and Reclamation. She is currently a water pollution biologist for PA DEP's Bureau of Watershed Conservation's Nonpoint Source Management program. She has conducted numerous stream investigations using macroinvertebrates and fish as water quality indicators on the effects of mine drainage and acid precipitation. Her Masters research was on a comparison of stoneflies and benthic macroinvertebrates in a variety of stream habitats, including streams affected by acidic and alkaline mine drainage.

Gary Fleeger - received his B.S. in geology from Bucknell University, and a M.S. in geology from the University of Illinois at Urbana-Champaign. His M.S. research involved the till stratigraphy of the pre-Wisconsin glacial episodes in western Illinois. Gary is currently a hydrogeologist with the Pennsylvania Geological Survey. Prior to this he was with the PA DEP as a hydrogeologist with the Bureau of Mining and Reclamation, and as a geologist for the Bureau of Oil and Gas Management. Previous employers include the Colorado Department of Health (drinking water program), the oil and gas industry in Colorado, coal consultant in Pittsburgh, PA, and the Illinois State Geological Survey.

Michael D. Gardner - has been a hydrogeologist with the Greensburg District Mining Office of PA DEP since 1983. He was previously employed by the U.S. Bureau of Mines and the U.S. Army Corps of Engineers. Mike has a B.S. from the University of Pittsburgh in earth and environmental sciences with geology being his area of concentration. He also holds an Associate Degree from the Community College of the Air Force in Weather Technology (Meteorology). His research interests and publications encompass water management, special handling techniques, and mine drainage prediction on surface coal mines in Pennsylvania.

Jay W. Hawkins - is employed as a hydrologist for the U.S. Office of Surface Mining, Pittsburgh, PA. He previously worked as a hydrologist for the U.S. Geological Survey's Water Resources Division (1996-1997) and the U.S. Bureau of Mines (1989-1996) and as a hydrogeologist for the Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1985-1989). Jay has a B.S. in geology from Waynesburg College, and a M.S. in coal hydrogeology from West Virginia University. He has published extensively in areas related to mining and mining hydrology. His research interests include surface and underground mine hydrology, groundwater flow in the Appalachian Region, and impacts of flooding underground mines to the surface water system.

Lysa J. Holland - is a soil scientist and mining engineer with Bucek and Associates, Inc., Hydrogeologists and Environmental Consultants, in Boalsburg, PA. She is a registered professional engineer in PA. She received B.S. degrees in soil science from the University of New Hampshire and in mining engineering technology from Indiana State University at Evansville, Indiana, and a M.S. in mining engineering from Pennsylvania State University. Her research at Penn State was in soil compaction during reclamation. Currently she is involved with surface mine permitting and design, and has worked on over one hundred surface mine permits which have included many alkaline addition plans.

Roger J. Hornberger - has been District Mining Manager of the Pottsville District Office of PA DEP since 1987. From 1978 to 1986 he was a hydrogeologist with PA's Bureau of Mining and Reclamation. Prior to working for the Commonwealth, he was employed at Penn State University in the Department of Landscape Architecture (1973-1976) and at the Institute for Research on Land and Water Resources (Sep 1974-Aug 1975, and July 1976-Nov 1978). Roger has a bachelor's degree in landscape architecture and a M.S. in geology, both from Pennsylvania State University. He is the author of publications on coal mine drainage prediction and prevention and is the Interstate Mining Compact Commission's representative on the Operations Committee of the Acid Drainage Technology Initiative.

Tim Kania - is a hydrogeologist in the PA DEP's Ebensburg District Mining Office. He has worked for DEP since 1982. His experience and professional interests lie in the areas of predicting postmining water quality and other aspects of mining hydrogeology. Tim holds a B.A. in journalism and a B.S. in earth sciences, both from Pennsylvania State University.

Robert L. P. Kleinmann - received his Bachelors Degree in geology from Penn State in 1974, and his M.A. and Ph.D. in geology (Water Resources Program) from Princeton University in 1976 and 1979 respectively. He was hired by the U.S. Bureau of Mines in 1979 to establish an acid mine drainage research team at the Pittsburgh Research Center, and served as a group supervisor until promoted in 1984 to Research Supervisor for the Environmental Technology Division. When the Bureau of Mines was abolished by Congressional action in 1995, Bob and his group were transferred into the US Dept. of Energy, where he currently serves as Director of the Environmental Science and Technology Division. He serves as editor of the international journal, *Mine Water and the Environment*.

David Maxwell - has worked for Amerikohl Mining, Inc. since 1987. He has held positions as lease manager and general manager. In 1993 he became vice president of Amerikohl. Prior to working for Amerikohl he worked for Walter E. Fike, P.L.S. preparing surface mining permit applications. Dave has an associate degree in petroleum engineering from the University of Pittsburgh and a wealth of practical mining experience.

Eric F. Perry - is a hydrologist with the US Office of Surface Mining, Appalachian regional office in Pittsburgh (OSM). He has thirteen years experience with OSM in technical investigations, training, and applied studies. Prior to OSM, he worked for five years as a consultant in waste management and mine permitting projects. He holds B.S. and M.S. degrees in soil science from West Virginia University, and is currently engaged in Ph.D. studies in hydrogeology. His professional interests include geochemistry and mine water quality, and quantitative hydrology of underground mines.

Arthur W. Rose - received a B.S. in geology from Antioch College and a Ph.D. in geology and geochemistry from the California Institute of Technology. From 1957 to 1964 he was an exploration and research geologist for Kennecott Copper Co., and from 1964 to 1967 he mapped geology for the Alaska Division of Mines and Minerals. In 1967 he joined the Department of Geochemistry at Penn State University, where he taught exploration and environmental geochemistry, and economic geology. He conducted research on geology and geochemistry of ore deposits, exploration geochemistry, acid mine drainage and geochemistry of radon and uranium decay products in soils. In 1996 he retired as Professor of Geochemistry, but continues investigations of alkaline addition and passive treatment of acid mine drainage. Art has authored numerous publications on a wide range of geochemical topics.

Joseph H. Schueck has a B.S. in geology from Indiana University of Pennsylvania. He worked for the Pennsylvania Department of Transportation as a soils engineer from 1970 to 1978. Joe is a registered professional engineer in geotechnical engineering, and a registered professional geologist. Since 1978 he has been employed by PA DEP's Bureau of Mining and Reclamation. His professional interests are the application of geophysical methods to characterize mine sites and the abatement and remediation of AMD. In 1994 was honored as the Conservation Professional of the Year by the Pennsylvania Federation of Sportsmen and Conservationist of the Year by the National Association of State Land Reclamationists.

Dennis J. Shaffer - is owner of Fike Associates Inc., a consulting firm in Clarion, PA. From 1987 to 1997 he was employed by Walter E. Fike, P.L.S., predecessor of the company he now owns. Previous employment includes 3 years as a geologic field director for Vendel Enviro-Industrial Consultants in Pittsburgh, PA. Denny holds B.S. degrees in geology and geography, both from Clarion University. He is a member of professional associations and societies in geology, hydrogeology, surveying and mapping, and is a member of the Pennsylvania Mining Professionals and the Pennsylvania Coal Association.

Michael W. Smith - is District Mining Manager at PA DEP's Hawk Run District Mining Office. He is a registered professional geologist and has worked for PA DEP as a hydrogeologist for over 16 years in the mining, waste management, geologic survey, and water quality programs. He earned a B.A. in geology and environmental sciences from Susquehanna University and a M.S. in geology (emphasis in hydrogeology) from the Pennsylvania State University. He has published articles on re-mining and alkaline addition, serves as an instructor for OSM's applied hydrology and surface and groundwater courses, and worked on the development of Pennsylvania's re-mining program.

G. Nevin Stroock - is Chief, Surface Mining Section, Division of Permits, Bureau of Mining and Reclamation, PA DEP. He has been employed since 1970 in Pennsylvania's mining regulatory program, including 9 years of field work involving reclamation and revegetation of coal surface mines. He has a B.S. in forest technology from Pennsylvania State University. Nevin has been a member of the Society of American Foresters (SAF) since 1966 and has served as Chairman of the Pinchot Chapter of SAF. He has also served as Chairman of the Pennsylvania Council for Surface Mining Reclamation Research.

Joseph M. Tarantino - is a hydrogeologist with PA DEP. He has worked at the Knox District Mining office since 1980. Prior to that he worked two years as a physical lab technician with IU Conversion Systems specializing in the stabilization of Coal Ash, SO₂ scrubber sludge and other industrial waste products. Joe is an instructor for the Office of Surface Mining's Acid-Forming Materials: Fundamentals and Applications course and their Surface and Groundwater Hydrology course. He is also a member of the Acid Drainage Technology Initiative's Prediction Work Group. Joe has a B.S. in geological sciences from Pennsylvania State University; and is a registered professional geologist in Pennsylvania.

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