



George Brimhall- Principal Geologist and Managing Member



Following discovery of the early-stage Cu-Mo mineralization in the Butte District by Meyer (1962 and 1965), George was responsible for the first mapping and publication of the early high-temperature chalcopyrite and magnetite zonation in the Butte mining District (Brimhall, 1977 and 1979) later expanded eastward through deep drilling by Arco. He served as the Steward Mine Geologist for the Anaconda Company from 1972 to 1974 following his doctoral research on the deep Cu-Mo deposit (1969- 1972) running across the entire Butte District aligned east-west along vertical quartz porphyry dikes. For two years he mapped the deep level production drifts and upper 3400 level development headings to establish a fresh air source at the Never Sweat Shaft and a long cross-cut to the Belmont Shaft for systematically drilling out the porphyry copper resources from the underground using fan drilling patterns. The district management plan was to transition from an historic deep selective cut and fill vein-mining operation to a modern high productivity deep underground mine. He was promoted to Project Geologist in 1974 to design and lead the exploration of the Butte District pre-Mainstage vein Cu-Mo Resource

for this purpose. Later Brimhall accepted a professorial appointment at the Johns Hopkins University where he worked for two years before becoming a professor of geology at the University of California, Berkeley where he worked for 32 years. Today, he is an Emeritus Professor of Geology & Material Science and Mineral Engineering at the University of California, Berkeley and now engages in mapping and exploration geology in Montana.

Since 2011, Brimhall has been the founder, Managing Member, and Principal geologist of Clementine Exploration LLC which was incorporated in 2011 in Montana by he and Mary Jane Brimhall to explore for new porphyry Cu-Mo deposits in southwest Montana. He defined the Butte-Pioneer Mountains Mineral Belt used in target selection of the area for detailed field work which became the Clementine Prospect in Silver Bow county within eye sight of the Butte District. Fluid mechanical modeling of magmas ascending thrust fault ramps was used to model Rayleigh-Taylor instabilities that explains the regular spacing of mining districts along this trend and the clustering of deposits around the Butte District (Brimhall and marsh, 2014). At Clementine, he discovered a new district scale mappable copper-mineralized alteration feature to extend the porphyry copper paradigm upwards in support of deep exploration. This new orbicular actinolite alteration marker forms a 6 km-long cupola across the new Clementine prospect and has direct similarities with a large tabular zone in the Carr Fork district on the edge of the Bingham District Utah (Brimhall, 2018 and Brimhall and fanning 2019).

Brimhall completed his BA degree at UC Berkeley in 1969 and PhD in 1972 at UC Berkeley where his mentors were Charles Meyer, Harold Helgeson, Leo Brewer, and Ian Carmichael.

Brimhall was a recipient of the Lindgren Award of SEG in 1980, Fellowship in SEG, GSA and MSA, and the Noyce Prize for excellence in undergraduate teaching in physical sciences and math at UC Berkeley. He gave the High McKinstry Lectures at Harvard University and served on their Visiting Committee. He was elected to the National Academy of Engineering in 2001.

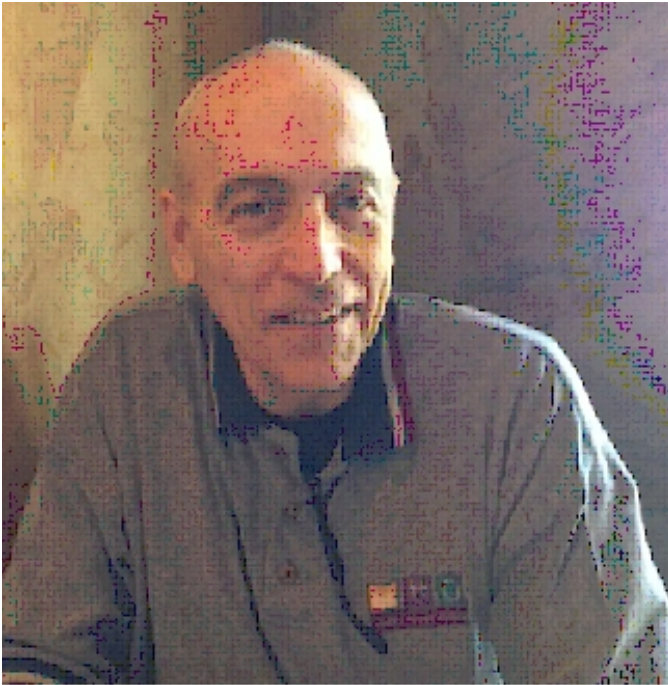
He has also served on the Science Panel of the State of California Commission on Teacher Credentialing and helped write the professional requirements for new teachers in earth science, biology, chemistry, and physics to ensure that they are ready to lead instruction expected by the state content standards. His PhD students include: Rick Eisenberg, Bill Chavez, Roger Stoffregen, Holy Huyck, Charles Alpers, J. K. Bohlke, Jay Ague, Kathy Ehrig, Paulo Vasconcelos, Tim Mote,

Terry Arcuri, Irene Montero and Masters advisees are: Lanier Poland, Mary Gilzean, Robert Ilchik, Aric Cunningham, Chris Lewis, and Erik Oerter. Senior Honor student advisees are: Carl Agee and Cin Ty Lee.

[CV](#)

Capital Program. He is a Chartered Engineer IMM London, member of SEG, Assoc. of Explor. Geochem., Society of MME and past Board Member of Northwest Mining Association.

Ray Morley- Business Development and Contracts



Ray Morley is an exploration professional with a background in generating mining opportunities worldwide through exploration, business development and junior company investments. He has initiated and negotiated business development opportunities including farm-ins, farm-outs, joint venture agreements and venture capital affiliations. Ray has experience in mining and exploration project evaluation, company acquisition research, mining law, mineral economics and industrial minerals.

Most recently he was Founder and V.P. Business Development of Western Oil Sands Inc. Calgary and Director of Tiberon Minerals Ltd., McVicar Resources Ltd. and Motapa Diamonds Ltd.. Prior to Western he was Manager of New Business of New Business Evaluation, Manager of Strategic Planning and Regional Exploration Manager with BHP Minerals USA.

Morley received a B.S. Geology from Notre Dame, M.S. Geology New Mexico Tech, MBA University of New Mexico and completed the Harvard Venture



Daniel Kunz is a mining executive with a proven record of building natural resource companies from small-scale explorers and developers into successful producing and operating entities. Mr. Kunz has over 35 years of international and domestic experience in engineering, management, accounting, finance and operations of natural resource projects and companies. After four years as a geologic technician in his home town of Butte, Montana with the Anaconda Company while earning an engineering degree, and three years with Kiewit Mining Group in Omaha Nebraska, Mr. Kunz worked 17 years for Morrison Knudsen Corporation (now AECOM) initially as a mining engineer and progressively as a business executive, leading to a role as CFO of the Mining Group and then Corporate Vice President and Controller. In 1985 Mr. Kunz co-founded MK Gold Company, a gold mining subsidiary of Morrison Knudsen. In 1993, as President, Chief Executive Officer and Director, he led the IPO of MK Gold Company on the NASDAQ stock exchange. MK Gold operated mines that produced some 200,000 ounces of gold annually in California and Nevada. The company was acquired by Leucadia National Corporation (NYSE:LUK) in 1996.

From 1997 to 2004, Mr. Kunz served as an executive of Turquoise Hill Resources (NYSE:TRQ formerly Ivanhoe Mines) including President, Chief Operating Officer and Director. In 2001 Mr. Kunz led the team that discovered Oyu Tolgoi, one of the world's largest copper-gold deposits. Mr. Kunz was also directly responsible for the financing and construction of the S&K Copper Mine in Myanmar becoming one of the lowest cost primary SXEW copper mines in the world. Under his leadership, Ivanhoe Mines also owned and operated the Savage River Iron mine and pellet project in Tasmania, 13 million ounce Bakyrchik Gold Project in Kazakhstan, the Emperor Gold Mine in Fiji and the Gasado Gold Mine in South Korea. When he joined Ivanhoe Mines the market capitalization value was some \$400 million and when he retired seven years later the value had grown to over \$4 billion.

After too much time away, travelling internationally, Mr. Kunz created a new start up geothermal energy, Boise-based company in 2003 by acquiring the Raft River geothermal test site in Idaho. He built a management team, acquired assets, arranged financing and in 2004 took the company public. Raising over \$315 million in capital, Mr. Kunz led U.S. Geothermal, Inc (NYSE:HTM) to develop and construct three new geothermal power plant projects that today are producing some 45 megawatts of baseload green electricity.

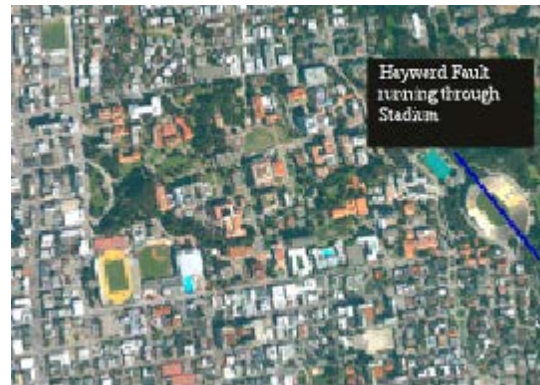
Mr. Kunz has significant experience in public company management and corporate governance and serves as a member of the board of directors of several public companies. Mr. Kunz graduated from the Montana College of Mineral Science and Technology with a BS degree in Engineering Science and earned an MBA from Boise State University. In 1995 Mr. Kunz was named one of its Distinguished Alumni from the University of Montana Tech, formerly the Montana College of Mineral Science and Technology.

Ed Rogers- Field Support, Safety, and Photography



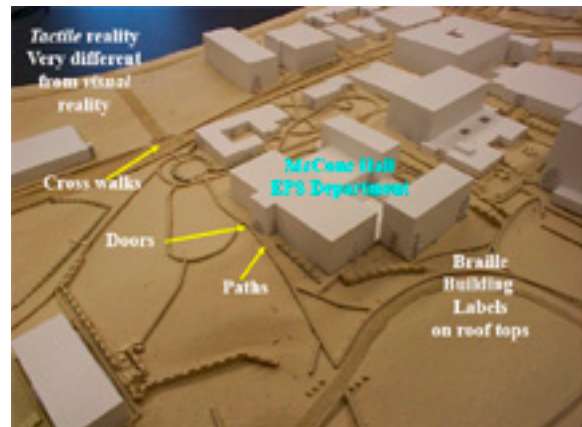
Ed also was employed by the Riverside County Flood Control & Water Conservation District in their Photogrammetric unit. He was involved in the production of aerial photo mosaics, photogrammetric maps, still and film photo production of major flood control projects.

Ed received his BS from Rochester Institute of Technology in 1972. Ed lives in Lafayette, CA with his wife Carol and two robust Labrador Retrievers. Ed's many interests are in backpacking, auto time trials, sailboat ocean racing and deliveries, and is accomplished in all three.



UC Berkeley Football Stadium

Ed Rogers is retired from the University of California, Berkeley as the former Director of the Disabled Students Program (DSP) at Cal. In that capacity he pushed the evolution of the DSP in exploring and applying innovative approaches to student accommodations including applications of assistive technology. This led to development and establishment of a stand-alone Assistive Technology Center (ATC). The ATC, among other things, researched and applied a wide variety of state-of-the-art assistive technologies and alternative media production. He collaborated with Professor George Brimhall in development of digital mapping applications to assist students with disabilities at Cal.



Tactile Reality Raised relief model for blind students at UC Berkeley, Disabled Students Program, located in the Cesar Chavez Union

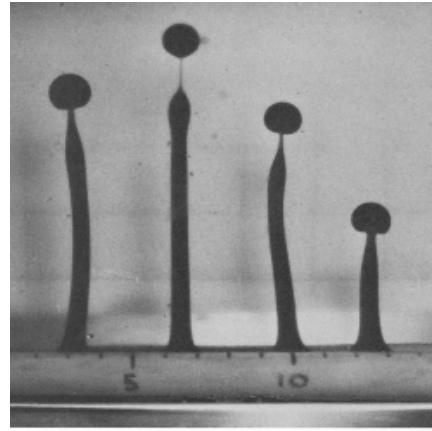
Prior to joining Cal he worked 23 years at the California State Department of Rehabilitation where he served as Assistant Deputy Director of Field Operations, Program Manager, Program

Coordinator, and Vocational Rehabilitation Counselor.

Bruce Marsh- Magma Dynamics

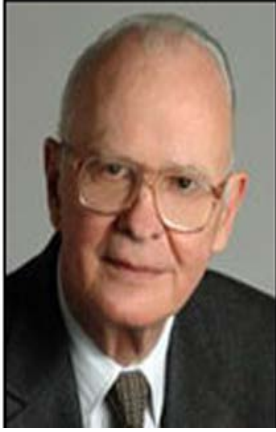


Bruce Marsh is an Emeritus Professor of Geology and Petrology at the Johns Hopkins University and holds a PhD from the University of California, Berkeley (1974). His BS degree was from Michigan State University (1969) and MS degree was from the University of Arizona, M.S. He was employed as Geophysicist/Geologist for the The Anaconda Company (1969-1971). His research interests include all aspects (from basic geology to crystallization kinetics, and fluid mechanics) of the generation, migration, and eruption of magma. One of the key achievements of his research accomplished both theoretically and experimentally is proof of silicate magmas forming regularly-space diapirs.



Among Bruce's awards is the Bowen Award (1993), American Geophysical Union Hallimond Lecture (1995), Mineralogical Society of Great Britain & Ireland Daly Lecture (2000), American Geophysical Union President's Lecture (2003), Florida International University2 Marsh Cirque (2005) in the Olympus Range of Antarctica named in honor of research Noel Potter Distinguished Lecturer (2006), Dickinson College da Vinci Lecture, Southern Methodist University, 2007 Mineralogical Society of America, Distinguished Lecturer 2008/09

Douglas Fuerstenau- Metallurgy



Douglas W. Fuerstenau, a native of South Dakota, gained much of his early background living first in rural parts of the state and then in the Black Hills area. In 1945 he entered the South Dakota School of Mines and Technology and graduated in 1949 with a BS degree in Metallurgical Engineering, followed by graduate studies at Montana School of Mines (now Montana Tech) where he received an MS degree in 1950. In consecutive summers while a student, he obtained practical experience by working in metallurgical plants: 1947 in the rolling mills and 1948 in the open-hearths of U.S. Steel Corporation in Chicago, 1949 in the Bunker Hill lead smelter in Kellogg, ID, and 1950 in the copper-zinc flotation mill of Howe Sound Company in Holden, WA. In 1950 he continued his graduate education at the Massachusetts Institute of Technology (MIT) under the mentorship of Professor A.M. Gaudin and was awarded his ScD degree in Mineral Engineering in 1953. From 1953 to 1956, Dr. Fuerstenau taught at MIT as Assistant Professor of Mineral Engineering and began his extensive research and teaching activities in the extraction of minerals and metals from ores. To further his practical background, in 1956 he accepted a position as Section Leader in the Metals Research Laboratories of Union Carbide Corp. in Niagara Falls, NY, where he worked on processing ores for the ferroalloy and battery industries. In 1958 he moved to Kaiser Aluminum and Chemical Corp. at Permanente, CA, as Manager of Mineral Engineering, concerned with the processing of low-grade bauxites. In 1959 he chose to return to academia as a faculty member at the University of California at Berkeley. Through his inspiration, numerous students have achieved notable distinction in careers in academia, industry and government worldwide. Now Professor Emeritus, over the course of his academic career, he guided the thesis research of 65 MS students and 60 PhD students.

Professor Fuerstenau's research has led to numerous seminal contributions to mineral processing and extractive metallurgy, ranging from flotation,

comminution, agglomeration, particle transport to hydrometallurgy. Much of the current understanding of selective flotation is based on his work on the flotation behavior of a wide range of minerals, including sulfides, oxides, silicates, rare earths, sparingly soluble minerals, and coal. His extensive contributions to comminution include ball mill modeling and scale-up, energy efficiency, and high-pressure grinding rolls. In the area of extractive metallurgy, he made innovative contributions to the recovery of metals from deep-sea manganese nodules, leaching chrysocolla, and the recovery of gold on activated carbon. His research not only laid out the scientific principles of many unit operations but also pointed the way towards improving process efficiency, reducing energy consumption, and enhancing environmental remediation. Some 440 publications have resulted from his work, mostly with graduate students. His publications are widely used and referenced extensively.

Fuerstenau has held leadership roles in national and international technical societies and has served on numerous advisory boards to universities, international editorial boards, government committees and panels regarding mineral resources, and has contributed widely at the international level to resource programs. For 20 years he was the American member of the Steering Committee of the International Mineral Processing Congresses (IMPC) and was long-time co-editor-in-chief of the International Journal of Mineral Processing. He served industry as a consultant on a number of mineral and energy processing problems. For 22 years he was a Director of Homestake Mining Company.

Elected to the National Academy of Engineering in 1976, Dr. Fuerstenau has received many awards, including honorary doctorates from Belgium and Sweden, and election to foreign academies in Australia, India and Russia. His accomplishments have led to his receiving many awards from AIME/SME, including the Hardy Gold Medal, Raymond Award, Richards Award, Gaudin Award, Aplan Award, Taggart Award, and AIME Honorary Membership. He was the first recipient of the International Mineral Processing Lifetime Achievement Award. In 2014, he was honored with the IMPC/SME Special Award for Outstanding Contributions to Global Mineral Processing through Teaching, Research and Professional Service.

Tim Teague- Mineralogy and SEM

Timothy Teague was born in San Francisco in 1953 and grew up in Mill Valley, California. He did his undergraduate work at the College of Marin and San Francisco State University, receiving a Bachelor of Arts degree in 1977. He attended graduate school at the University of California at Berkeley and earned a Master of Science degree in 1981.

Mr. Teague worked in construction during his undergraduate years and as a research assistant in graduate school. From 1982 to the present he has worked for the Department of Earth and Planetary Science at UC Berkeley. His positions have included Laboratory Assistant, Petrographic Technologist, Staff Research Associate, and Spectroscopist. All the SEM mineralogy, petrography, and polished thin section microscope done on Clementine was prepared by Tim.

