

H. Edward Clifton (1934-2023)

On January 17, 2023, H. Edward Clifton, known by friends, family, and colleagues as Ed, passed away in Monterey, California. Ed was an accomplished scientist, a talented communicator, and a compassionate yet determined leader. He served as President of SEPM in 1986-87, presiding over the difficult separation of SEPM from AAPG and its emergence as a vigorous, independent scientific society. After his retirement, SEPM awarded Ed the Francis J. Pettijohn Medal (2004) in recognition of "Sustained Excellence in Sedimentology."

Ed studied under F.J. Pettijohn at Johns Hopkins and joined the U.S. Geological Survey in Menlo Park in 1963. His career reads more like an adventure book than the usual list of achievements of a scientist. Assigned to evaluate the old gold placers along the Oregon coast, Ed parlayed that into a long-term project to study nearshore marine sedimentary deposits and environments. He and his team were the first USGS scientists to use scuba to facilitate their surf zone studies.

In 1969, the same year that astronauts first set foot on the moon, Ed became the first geologist aquanaut to set foot on the ocean floor while spending a record-breaking 60 days in an undersea habitat as one of four aquanauts in the Tektite I experiment. In 1970, he served as Crew Chief on Tektite II. Between the two experiments, he spent nearly three months living and working on the shallow seafloor in the Virgin Islands studying the interaction of marine organisms with physically produced sedimentary structures. His roles in these pioneering experiments served as a major springboard in his career-long focus on the sedimentology of near-shore modern and ancient sediments, much of it along the northern California, Oregon, and Washington coasts. A meticulous and creative geologic observer, Ed pursued a life-long passion for the study of sedimentary rocks defining the facies and detailed characteristics of open-coast, nearshore sediments and their depositional environments. Although he mainly focused on nearshore environments, his interests were extensive and included study of the well-exposed Paleocene rocks at

Point Lobos State Natural Reserve, south of Monterey, where he served as a volunteer docent, trainer, and field trip leader during his retirement.

He earned an international reputation, receiving numerous awards for his work including the prestigious Distinguished Service Award of the Department of the Interior (1969), three separate Superior Performance Awards from the USGS, and a Meritorious Public Service Award (US Navy, 1969), in addition to the Francis J. Pettijohn Medal from SEPM (2004) for his body of career achievements.

Ed served as Chief of the Branch of Pacific-Arctic Marine Geology (1978-1981) while actively pursuing his own research projects. His generous leadership and enthusiastic teaching in the classroom and on the outcrop stimulated the careers and work of many others. He taught a popular seminar in sedimentology that inspired many young sedimentary geologists at Stanford University (1983-1991).

In 1991, he left the Survey to join Conoco, where he stayed until his retirement in 1999. During his stint in the petroleum industry, he was designated as an AAPG Distinguished Lecturer (1995-96). Post-retirement, he achieved USGS Geologist Emeritus status (1999-2010).

Ed was particularly interested in ways to communicate and share science with colleagues and the community at large. Those who have attended any of Ed's presentations, often described as riveting, lively, and sometimes hilarious, will not be surprised to learn that in 1978 he wrote an article for the *Journal of Sedimentary Petrology*, entitled "Tips on Talks or How to Keep an Audience Attentive, Alert, and Around for the Conclusions at a Scientific Meeting." The article became one of the most reproduced, reprinted, cited, and downloaded pieces in that journal's history.

Ed pursued his avocations with the same intensity that he pursued his geologic career. Inspired by conversations with a winemaking colleague in 1970 when both were aquanauts in the underwater habitat of Tektite II, Ed applied his many talents as a scientist to the art and craft of winemaking. Over many years of painstakingly perfecting the chemistry and techniques of home winemaking while working out

of his garage, Ed won top ribbons for some of his finest wines under the label of “Chateau Garage.” Colleagues from the Survey joined the activity and formed what became a unique legion of geologist winemakers with an educated appreciation for the terroir, applied chemistry, and fine-tuned processes of home winemaking.

“What a lucky guy I am!” exclaimed an ecstatic Ed Clifton on more than one occasion (even formally on his written reply for the Pettijohn Medal Citation in 2004). Ed was indeed a ‘lucky guy’ who lived through a golden era of science, with its illusion of infinite growth and unlimited funding. Despite the profound changes experienced by subsequent generations of scientists, his scientific legacy lives on. His seminal paper from 1971 published in the *Journal of Sedimentary Petrology*, entitled “Depositional Structures and Processes in the Nonbarred High-energy Nearshore,” is still taught in university classrooms today. He persevered through the challenges of SEPM’s evolution during his SEPM Presidency and throughout his involvement with the Society. His honest assessment and lucid report of the 25 years of SEPM activities from 1976-2001 published in the *Journal of Sedimentary Research* is detailed, rigorous, and far from flattering for the characters involved.

Ed led by example with a positive attitude and visionary outlook. Ed got the most out of his ‘times’ but he contributed much to his and future generations. The saying “We make a living by what we get, but we make a life by what we give” certainly applies to Ed’s life. Though his teachings, leadership and scientific achievements were contemporary and fresh during his lifetime, they easily transfer to our new scientific era and the younger generations of sedimentary geoscientists.