



ROBERT J. WEIMER

1926–2021

Elected in 1992

*“For application of stratigraphic principles to exploration,
and for promoting continuing professional education.”*

BY PAUL WEIMER, LAURA LAMAR, AND HOSSEIN KAZEMI

ROBERT JAY WEIMER passed away August 25, 2021, in Boulder, Colorado. He was 94 years old. An internationally known geologist, he distinguished himself in a 7-decade career as an outstanding teacher, influential researcher, and innovative explorationist.

Bob was born September 4, 1926, in Glendo, Wyoming, to John and Helen Weimer. In 1944 he graduated from high school (in a class of 14 students) and joined the US Navy’s officer training program and studied engineering at the University of Southern California until the end of the war. After being discharged in 1946, he enrolled at the University of Wyoming, where he received a BA in 1948 and MA in 1949, both in geology.

While in college, Bob met his life partner, Ruth Adams, a journalism student and campus leader. They married in September 1948 and she became the secret ingredient in Bob’s success.

His first job (1949–51) was with Union Oil, at several locations in the Four Corners area. He took a leave of absence to continue his geology studies at Stanford University, where he completed his PhD in the 2½ years covered by the amount of funding remaining from his GI Bill. In 1954, PhD in hand, he returned to work with Union Oil for 1½ years in Wyoming and

Montana, and then began working as a consulting geologist in late 1954.

As an explorationist, Bob broke new ground at age 32 with his innovative discovery of the Patrick Draw Field in southwest Wyoming in 1959. Previously, major Rocky Mountain oil fields had been associated only with structural traps. Bob, however, recognized the presence of a productive stratigraphic trap; namely, the combination of the updip pinchout of the Almond Sandstone and where it overlies the Wamsutter arch. This Patrick Draw discovery launched a decade of exploration in the Rockies and nationwide, searching for similar kinds of previously unrecognized or ignored stratigraphic traps. Later, in 1973, Bob applied the same stratigraphic concepts to help discover the Spearhead Ranch Field in the southwestern portion of the Powder River Basin in northern Wyoming.

While he was identifying new techniques to locate petroleum fields, Bob also pursued his lifelong dream of becoming a teacher. In 1957 he was hired as a professor at the Colorado School of Mines (CSM) and soon became well known in the Rocky Mountain geologic community as he chose to research areas that were not only economically productive but also near CSM and Denver. This made it easy for local geologists to visit the outcrops he studied and apply his concepts to their companies.

Bob published several papers that quickly became standard references and the starting point for understanding the regional framework of the Upper Cretaceous strata.¹ Local companies applied this framework extensively, leading to major productive petroleum discoveries.

In the classroom, Bob used his experience in industry to bring an applied perspective, so his students learned both

¹ For example, [1] Upper Cretaceous Stratigraphy, Rocky Mountain Region. *Bulletin of the American Association of Petroleum Geologists* 44(1) (1960); and [2] Relation of Unconformities, Tectonics, and Sea-Level Changes, Cretaceous of Western Interior, USA, in *AAPG Memoir 36: Interregional Unconformities and Hydrocarbon Accumulation*, ed. Schlee JS (1984).

geologic theory and pragmatic operational concerns. Many of them credit him for their successful careers.

Bob was influential not only for the quality of his teaching but also for the number of students he taught. In his 60-year tenure at CSM, he personally taught more than 1000 students; many of them took his “Principles of Stratigraphy” class, which was required for all geology, geophysics, and petroleum engineering majors. A significant number of those students found employment in the Rocky Mountain geocommunity and built lifelong ties with their former professor.

His commitment to education extended beyond his CSM students—he was motivated to educate the public and public officials. In evenings and during the summers of 1971–88, Bob designed and taught special courses for congressmembers and staff, industry and business leaders, and other key people to give them a sense of how science and the energy industry work.

His industry short courses used cores from the laboratory he established at CSM in 1972 and outcrops in the Golden and Morrison areas. His summer field courses started with Precambrian rocks at Red Rock Park and progressed to the Pennsylvanian Fountain Formation and, in Morrison, the Permian Lyons Sandstone and Lykins Formation. At the I-70 roadcut he pointed out the Jurassic Morrison Formation and Lower Cretaceous Muddy (J) Sandstone. He would also go to the Muddy (J) outcrops at Dinosaur Ridge and Turkey Creek—the latter is a surface oil seep, and he would tell participants that they were walking through an oil field. He also took groups to the Upper Cretaceous Niobrara Formation north of Boulder and the Cretaceous Hygiene Sandstones near Hygiene, CO.

The CSM campus is unique because of the near vertical, uppermost Cretaceous outcrops that bound the west end of campus. Large portions of the strata were quarried for clay in the early 20th century for building materials in Denver. The excavations left spectacular exposures, which Bob meticulously described; his work was eventually turned into an educational “walking geology trail” known as the Bob Weimer

Mines Geology Trail.² The strata display a record of Colorado Front Range uplift—the rocks exposed on the CSM campus and the Table Mountains and Green Mountain 3 miles south of the campus—showing the outcrops of the Pierre, Fox Hills, Laramie, and Arapahoe formations, rich with fossils and dinosaur tracks.

In all his courses and tours, he was eager to share his knowledge and help people understand the terrain around them. As he said, “It is important for us to take an active role in the management of our resources.... [And] we must also get involved with the education of our young people about natural resources by leading field trips and spreading our knowledge into the primary and secondary schools.”

Bob served as CSM Geology Department chair (1964–69) and held the inaugural Getty Chair from 1978 until his retirement in 1983. For the next 30 years he remained active both as an emeritus professor at CSM and as a geoconsultant in the Denver area.

In addition to local pursuits, he traveled and taught internationally. For example, he taught as part of a Fulbright program at the University of Adelaide in 1967, and returned to Australia several times to teach short courses. He also taught at the University of Calgary (1970) and at the Institute of Technology of Bandung in Indonesia (1975). These trips were life-changing experiences for both Bob and his family and led to many lasting friendships in numerous countries.

Bob’s strong professionalism led to extensive service for many geologic and engineering professional associations. He was active with the local Rocky Mountain Association of Geologists, which recognized him as an honorary member (1973) and Outstanding Scientist (1982). He was president of the Society for Sedimentary Geology (SEPM; 1972–73) and American Association of Petroleum Geologists (AAPG; 1991–92) and a distinguished lecturer for both the AAPG and Society of Exploration Geophysicists. For the National

² It is described and illustrated in Colorado School of Mines Geology Museum Special Publication No. 1, 2004.

Academies, he volunteered as a member of Committee on Integrated Resource Planning in Romania (1992–93), Panel on Review of the Oil Recovery Demonstration Program of the Department of Energy (1994–96), and Ford Foundation Diversity Fellowships Predoctoral Review Panel on Physical Sciences and Mathematics (1999, 2000, 2003). After his election to the NAE in 1992, he served on both the Peer Committee (1994–97) and Executive Committee (vice chair, 1997–99; chair, 1999–2000) for Earth Resources Engineering (Section 11).

Bob received many awards during his distinguished career, including the AAPG Sydney Powers Medal (1984); American Institute of Professional Geologists' Ben H. Parker Medal (1986); University of Wyoming Distinguished Alumnus (1994); SEPM Twenhofel Medal (1995); American Geoscience Institute's Legendary Geoscientist Medal (2006); and honorary memberships with several groups. The Colorado School of Mines honored Bob with the Mines Medal (1982), Brown Medal (1990), an honorary degree (2008), and in 2012 establishment of the Weimer Distinguished Chair in the Department of Geology and Geological Engineering.

While Bob was building his career, he and Ruth raised their family on Lookout Mountain near Golden. In his 55 years there, Bob served many volunteer roles, including president of his community and chair of the local water committee. With his geologic expertise, he found the best locations to drill water wells in Mount Vernon Country Club. To this day, that water fills the taps for Mount Vernon's 100 households, swimming pool, and restaurant. He also served as president of the North Woodside Conservancy Foundation and a board member at the Foothills Art Center. As part of a family of homesteaders, he cherished the landscapes of the Rockies and spent substantial time with family and friends outdoors—hunting, fishing, backpacking, camping, skiing, rafting, and coaching baseball.

Bob is survived by sons Tom, Paul (Laurie), and Carl (Kathy); four grandchildren; and two great-grandchildren. He was preceded in death by Ruth (2017) and son Loren (1971).

To summarize a life well-lived, Bob represented the very best of his profession. He understood that in exploration geology

the line between success and failure is infinitesimally thin, and he maintained the humility that is born of that understanding. His professional service was driven by his deep gratitude for the opportunities that came his way. Sometimes, at odd moments, one could hear Bob quietly crooning his favorite Louis Armstrong song, "I'm Just a Lucky So-and-So."

Bob was more than an outstanding geologist: he was a greatly valued friend and colleague to many. He mentored hundreds of geologists in an informal yet effective and lasting way. He was extremely generous in sharing his time, resources, and enthusiasm with members of his profession and his community. He relished guiding young people to discover the wonders of the geologic world and helping every person he encountered to feel truly special.

He is sorely missed.

