



*Stephen E. Elkins*

# LLOYD EDWIN ELKINS, SR.

1912–2004

Elected in 1976

*“For pioneering developments to increase  
oil and gas production from low-grade reservoirs.”*

BY HOSSEIN KAZEMI

LLOYD EDWIN ELKINS, SR. passed away at the age of 92 in his last residence in Amarillo, Texas, on December 17, 2004. He was known for “fathering” hydraulic fracturing, a technique used for oil and gas recovery worldwide.

Born in 1912 in Golden, Colorado, to Edwin and Beulah Elkins, Lloyd attended elementary school, high school in nearby Wheatridge, and the Colorado School of Mines (CSM) in Golden, where he was a member of the social fraternity Sigma Phi Epsilon and three honorary societies, Tau Beta Pi, Sigma Gamma Epsilon, and Scabbard and Blade. He was also a four-year letterman on the basketball team at CSM. In 1934, he received a degree in petroleum engineering from CSM. He later attended the Harvard School of Advanced Business Management (graduation in 1948), and in 1963, he received an honorary doctorate in science from the University of the Ozarks.

After graduation from CSM, Lloyd was employed by Pan American Petroleum Corporation (later known as AMOCO), where he remained for 43 years. After several advancements, he was appointed chief engineer for the Pan American Petroleum Corporation in 1948 and director of production research at the corporate Tulsa research center in 1949. Under his leadership, hydraulic fracturing was invented and developed as a significant and important oil and gas well stimulation procedure and has become the cornerstone of production from unconventional oil and gas resources in the United States.

Mr. Elkins was elected president of the Society of Petroleum Engineers (SPE) in 1948 and was awarded the SPE Distinguished Service Award in 1959. He was also president of the American Institute of Mining, Metallurgy and Petroleum Engineers (AIME) in 1962 and was awarded the AIME Lucas Gold Medal and made a Distinguished Life Member in 1966. In 1951–1952, Lloyd was chairman of the American Petroleum Institute (API) Advisory Board on Fundamental Research on Occurrence and Recovery of Petroleum. A prolific writer of technical papers, he was recognized as an outstanding authority on the secondary and tertiary recovery of oil. He was a member of the editorial board and a contributing author of *The History of Petroleum Engineering* (American Petroleum Institute, 1961).

In 1961, he was awarded the Distinguished Service Medal from CSM. He was also named to the Engineering Hall of Fame at Oklahoma State University and the Engineering Hall of Fame of the University of Tulsa. He was a member of the Tulsa Geological Society and an honorary member of the Australasian Institute of Mining Engineers. His numerous other awards include the Golden Plate Award from the American Academy of Achievement, the API Citation for Service, and the University of Tulsa Citizen Award.

When Lloyd retired from AMOCO in 1977 to begin a private consulting business in Tulsa, Oklahoma, he was considered an industry leader and was known to have a passion for helping others to achieve high levels of excellence. He was subsequently chosen as a member of the prestigious Arbitration Board that divided the rights to the massive oil properties in Prudhoe Bay, Alaska.

The following statements by some of his contemporaries tell part of his story.

Dennis Gregg, a past president of SPE, wrote the following: “I had no business contacts with Lloyd, though my wife and I did have the pleasure of meeting and visiting with the Mr. and Mrs. Elkins at SPE functions. I do have one little story about Lloyd and his brother Lincoln. I went to the same high school as the Elkins brothers—Wheatridge High School in a Denver suburb. We had the same math teacher, Mrs. Pennington, who

was still talking about the Elkins boys and holding them up as examples to her students a decade or more after they had graduated. They had gone on to Colorado School of Mines, and Mrs. Pennington was instrumental in pointing me—and several of my classmates—that way.”

Arlie Skov, another SPE president, worked with Lloyd’s younger brother, Lincoln, for many years. Skov provided the following anecdote:

Lloyd Elkins once gave me some of the best advice I’ve ever gotten. In the fall of 1955, I was 27 years old, a Korean War vet, married with one child, and set to graduate from Oklahoma University in February 1956 with a B.S. in petroleum engineering (with a high GPA). Demand for petroleum engineers was high, and I had lots of job offers, mostly in operations.

But I also arranged to interview with Amoco Research (then Stanolind Oil and Gas Co) in Tulsa, Oklahoma. Given the high level of demand at the time, I was properly wined and dined by many mid-level research managers who all told me my prospects in research were very bright. My last interview was with Lloyd Elkins, then head of research. We chatted for a while, and then Lloyd told me, “Your career will move faster and further in operations than in research!” Given the prior level of seemingly high interest in hiring me, I was crushed, but Lloyd was correct. Without a Ph.D. (and at my age and family status, no interest in getting one), I would have been at a disadvantage, and, too, my personality was better suited for operations. Lloyd recognized that. So I took a job in operations and lived happily ever after!

Lloyd was also an active member of his community. He was president and a board member of the Tulsa Family and Children’s Service and one of the first Tulsa Library Hall of Fame honorees. He was a founder of the Tulsa Petroleum Club and a member of the Tulsa Country Club and Kiwanis Club. He was also very active in his church.

Lloyd's family included his beloved wife, Virginia, to whom he was married for 70 years, daughter, Barbara, and husband Kenneth Teel of Amarillo, a son, Lloyd Jr., and wife Judi of Alamo, California, and a daughter, Marylou Snuggs, who predeceased him. He had six grandchildren and 13 great grandchildren.

Around the home and family he was an icon and role model, just as he was in his company, industry, and community. According to his children he was a humble, loving, selfless, giving, caring husband, father, grandfather, and great grandfather.

