



*Fred C. Hartley*

## Fred L. Hartley

1917-1990

By John R. Kiely

WHEN HE DIED in 1990, Fred L. Hartley, chairman emeritus of Unocal Corporation, was praised as a creative engineer, an executive of vision, and a man of great integrity. His passing on October 19 was just two days after the one-hundredth anniversary of the founding of the company he led for a quarter of a century. In that time, he transformed Unocal from a small, regional oil operation to an international energy resources company.

Hartley was born in Vancouver, British Columbia, on January 16, 1917. He attended grade school and high school in Vancouver and then the University of British Columbia. He graduated in 1939 with a degree of bachelor of applied science in chemical engineering.

Fred worked much of his way through college. For the first two summers, he was a dishwasher and then a steward on a Canadian cruise ship running between Vancouver and Skagway, Alaska. He spent a third summer with a five-man survey party in the wilds of the Yukon, and his last summer in college, he worked as a draftsman for Standard Oil Company of California's Canadian subsidiary.

Unocal recruited Fred while he was in college. In 1939, immediately after graduation, he was on his way to the Unocal refinery at Oleum, near San Francisco. Hartley often recounted the surprise on the face of the Union Oil employee assigned to

meet the new recruit when he stepped down from the train wearing a suit with a vest and a flat-topped straw hat.

He started at the very bottom. His first few months were spent chipping rock-hard residue from the bottoms of furnace stacks. Within a few months, he was promoted to junior research engineer at the Los Angeles refinery, and he was on his way.

The next year, 1940, Fred's college sweetheart, Peggy Murphy, graduated with a degree in physics. She came to California in November, and they were married. Their children, Marnie and Jack, were born in 1956 and 1958.

Two things that characterized Hartley's career at Unocal were his enthusiasm for what he was doing and his vision of what technology and hard work could accomplish. In 1990 Unocal published a book celebrating its first one hundred years. The chapter covering Hartley's twenty-four years at the helm is entitled "Fred L. Hartley, Visionary Engineer."

As the war years approached, Fred moved up the corporate ladder. By World War II he was totally involved in working on the design of plants for the manufacture of aviation gasoline and toluene for explosives. Both the American and Canadian armies decided that he could be of most value continuing what he was doing at Unocal.

By the summer of 1942, at the age of twenty-five, Hartley was put in charge of the hydroformer's start-up at the Oleum Refinery. As he told it, "I just sort of fell into the job as the key man doing the initial work on the plant with the contractors. Having operated the pilot plant, I probably was one of the best informed men around to operate the commercial one." In 1944 he moved up to the headquarters office as manufacturing process supervisor in charge of process engineering design for all of Unocal's new plants. In 1950, at age thirty-three, he became general superintendent at the Los Angeles refinery.

In 1953 Hartley was transferred to the research department in Brea, California, where one of his activities was the sale and licensing of Unocal technology to other companies. He was also actively involved in two of Unocal's key developments. The first was called Unifining, where cobalt molybdenum catalysts were extensively tested and found effective as a means of removing

poisonous sulfur and nitrogen compounds from naphthas, straight run gas oil, and catalytic gas oils. Several hundred plants were constructed as a result, and licensing income surged. In 1955 he became a corporate vice-president in charge of all of Unocal's research.

In 1958 Unocal initiated the revolutionary development of hydrocracking, called Unicracking, which is in use by refineries around the world. The process made use of new materials called molecular sieves, which as catalysts caused hydrogen to react with petroleum distillate feed stocks to produce gasoline in yields of 115 or 120 volume percent of feed. By 1990 there were sixty-five Unicracking plants around the world, and well over 60 percent of the world's installed hydrocracking facilities were using the Unocal developed technology.

In 1960 he became senior vice-president, marketing, and was elected to the board of directors. Two years later he became senior vice-president both for marketing and for all refining. In 1963 Hartley became executive vice-president. In 1964, at the age of forty-eight, he became president and chief executive officer of Unocal, and in 1974 chairman of the board.

By 1964 Hartley had developed a firm opinion that Unocal needed to grow from a small company in the Western region to a large national company if it was to survive. As soon as he became chief executive officer he moved aggressively to accomplish this growth. Meanwhile the Pure Oil Company, headquartered in the Midwest, had come under attack by raiders and was vulnerable to takeover attempts. In late 1964 Milligan of Pure Oil and Hartley of Unocal developed an outline for a merger. The merger was consummated by mid-1965. Thus, Unocal became twice as big with markets on both sides of the Rockies. This was the biggest oil company merger up to that time.

Six months later, Hartley announced the formation of the Unocal International Oil and Gas Division. Only one year after he became chief executive officer, he had transformed the company from a small regional company to a national company with a growing international presence.

Hartley also took a keen interest in the development of geothermal energy and in oil from shale. His college thesis had

been on shale oil. Unocal became the largest producer of geothermal energy in the world. Unocal also built the nation's first commercial shale oil facility, which produced nearly 4.5 million barrels of synthetic crude during its five years of operation. But oil and gas prices would need to rise substantially for oil from shale to be competitive.

Hartley's most difficult time came when T. Boone Pickens, a well-known corporate raider, tried to take control of Unocal using a combination of large debt and junk bonds. Unocal won out, but it did so at a heavy price.

Hartley was an honorary director and former chairman of the American Petroleum Institute. He was a fellow of the American Institute of Chemists and the American Institute of Chemical Engineers. He was a member of the American Chemical Society and the Society of Automotive Engineers. He was also a director and former president of the California Chamber of Commerce, as well as being active in many other civic organizations. He served as a senior trustee of the California Institute of Technology and a trustee of the Committee for Economic Development, and was a member of the Conference Board. He was elected to the National Academy of Engineering in 1980. Hartley was also involved in three patents, and published many articles on the various aspects of the oil business and on civic affairs.

Hartley was active in many cultural affairs. He served as a vice-president and trustee of both the Southwest Museum and the California Museum of Science and Industry, a director of the Los Angeles Philharmonic Association, a life trustee of the board of governors of the Music Center of Los Angeles County, and a member of the board of overseers of the Huntington Library.

On a more personal side, Fred was very fond of music and singing. He could sit down at the piano and play from memory for hours without stopping. He liked nothing more than an evening spent with friends or at company gatherings, playing the piano and singing songs. He had a great sense of humor and was pleasant to spend an evening with. He never hesitated to give his opinion on subjects that he felt strongly about, as all who knew him will agree.

