

MEMORIAL RESOLUTION

FREDERICK G. TICKELL (1886 – 1976)

Professor Frederick G. Tickell died at his home in Palo Alto on March 23, 1976. He was in his ninetieth year and had been active almost to the time of his death. He began his teaching career at Stanford in 1921 as the University's first petroleum engineering professor and gave distinguished leadership in this field. He taught petroleum engineering courses throughout his Stanford career. He was Executive Head of the Department of Mining during the 1936-1946 decade and was Director of the Division of Technology, School of Mineral Sciences, during the year immediately preceding his retirement, 1950-51. He served on various University committees for many years. Aside from his regular academic duties, he was a consulting geologist and petroleum engineer to a number of oil companies. This work involved mineral surveys, appraisals of oil lands, expert testimony, microscopic analyses, and oil development research. In 1943 and 1944 he served his country as a production consultant to the War Production Board.

He was born on April 19, 1886 in Bellevue, Ontario, Canada, and came to the United States as a child. On May 12, 1913 he married Berniece Irene Lea. There was one child: Jean (Mrs. K. F. Pilgram), who survives him. His beloved wife predeceased him in 1967.

Fred Tickell first came to Stanford when petroleum engineering was in its infancy and just beginning to be generally recognized as a distinct profession. He was indeed a true pioneer, both as a member of one of the first university departments in the world concerned with this branch of study and as a man who had the unusual education and experience background necessary for his job. Technically trained men in the oil fields at the time were commonly classified as geologists even though the bulk of their work was in petroleum engineering. Moreover, their college educations were often in mining engineering as well as in geology. Fred Tickell was educated at the University of California, receiving his B.S. degree in mining engineering in 1912 and his E.M. degree in mining and petroleum engineering in 1927.

He is probably best known in the petroleum industry for his method of displaying, graphically the composition of underground oil field waters. Tickell graphs have been widely used ever since his method was first published in 1921. He is also well known for his books, which reflect his delight in working with rocks and minerals. The first edition of *Examination of Fragmental Rocks* was published in 1931 and the second in 1939. An updated version of the 1939 volume, entitled *The Techniques of Sedimentary Mineralogy*, was published in 1965, fourteen years after he reached the Stanford retirement age. This in itself bespeaks Fred Tickell's long and always active career.

His professional work prior to 1921 formed a solid foundation for his teaching career at Stanford. Just after graduation from college in 1912, he became an engineer for a few months with the Yukon Gold Company in Dawson. He then returned to California and, in chronological order, worked from 1913 to 1916 as the engineer in charge of hydrographic surveys for the Marin Municipal Water District, as an assayer, and as an instructor in mineral assaying at

Healds' College. During the period from 1916 to 1921, he was engaged as a geologist and petroleum engineer for three different oil companies. Thus, when he came to Stanford he had a broad range of practical experience in the field and in applied technology.

His students remember him as a sympathetic, understanding man who took a keen interest in their problems. He has been described as a conscientious, thorough teacher. His faculty associates and his students think of him as a reserved, almost shy man, but one who was decidedly independent. Even though he was not the outgoing type and could be characterized as a private man, he made close friends among his students, many of whom called on him regularly up to the time of his death.

He was an innovator, continually inventing and building, always trying to improve a device or design a better one. Some called him a tinker, but only in the sense of one who enjoys repairing and experimenting with machine parts. He had an abiding interest in optical instruments, taking great pleasure, for example, in using an optical microscope. He became so immersed in photography that he developed and offered a Stanford course on the subject. He would pursue with vigor any subject that captured his interest until he had mastered it. For example, as a hobby he learned to weave, specializing in wall hanging, and table runners, and became quite adept at this form of art. He also tried his hand at painting, joining his wife who had earlier undertaken this up as a hobby. Their paintings adorned their home.

Fred Tickell was active physically as well as in his academic pursuits and avocations. Almost until the end, he rode a bicycle back and forth between his home and Stanford. During these trips he was a familiar sight and one that many of us will long remember. Those of us who knew him recognize that Stanford is a better place for his having been here.

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