

DONALD F. COATES (1923 – 1981)

By Branko Ladanyi

(from Proceedings of the 50th CGS Annual Conference, Ottawa 1997, V.1, p.5).

Updated by Louisa Coates (2023)



Dr. Donald Francis Coates was Director-General of the Canada Centre for Mineral and Energy Technology, Energy Mines and Resources (now Natural Resources Canada). He will long be remembered for his pioneering work and dedication to rock mechanics in Canada as well as the rest of the world.

Donald was born in Prince Albert, SK in 1923. He grew up in Montreal, attended West Hill High School and graduated from McGill University with a BEng in 1948 and a PhD in mining engineering in 1965. As a university student he spent two summers working for the Geodetic Survey of Canada on Baffin Island and on Charlton Island in James Bay. He enlisted in the RCAF in 1943 and was discharged in May 1945 as a pilot officer. A Rhodes Scholar, he received an MA in political economy from Oxford University in 1954. He was an assistant professor in engineering at McGill University from 1951-1957, a director of Carleton University School of Engineering from 1957-1959 and a consultant from 1959-1963.

Donald joined the Department of Energy, Mines and Resources in 1963 as head of the Mining Research Centre. One of the major accomplishments of the centre during this time was the publication of a design guide for mine waste reclamation to minimize environmental effects. In November 1973, he was appointed director of the Mines Branch, subsequently designated the Canada Centre for Mineral and Energy Technology, in which capacity he supervised research programs on the production, processing, and utilization of minerals and fuels.

Donald was one of the founding members of the first rock mechanics committee in Canada, the Canadian Advisory Committee on Rock Mechanics. As Chairman of this committee between 1963 and 1978 he guided it through its formative years and membership in the International Society of Rock Mechanics (ISRM), and its eventual affiliation with the Canadian Institute of Mining and Metallurgy as the Canadian National Committee on Rock Mechanics. He also served as Vice-President for North America of the ISRM and served on many of its commissions.

In 1969, Donald became a Fellow of the Royal Society of Canada; in 1972, a Fellow of the New York Academy of Science and in 1980, a Doctor of Engineering, honoris causa, University of Ottawa. In 1978, he was bestowed with the Rock Mechanics Award by the US-based Society of Mining, Metallurgy and Exploration for distinguished contributions

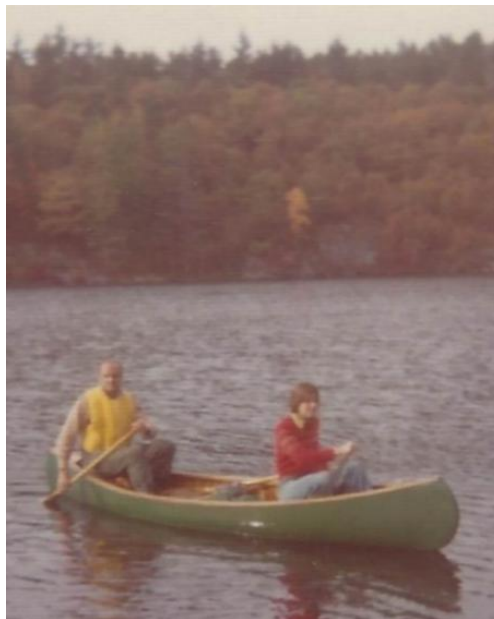
toward the advancement of rock mechanics. He was an Adjunct Professor, University of Arizona (1973-76), a guest lecturer at the University of California (1969) and a Member of the Board of Directors, Centre of Research Studies, Queen's University (1974-78).

His publications on rock mechanics were numerous and covered a broad spectrum. He was honoured for his long and distinguished service by receiving the Gold Medal of the Canadian Rock Mechanics Group for the best applied rock mechanics paper in 1974.

A publication that deserves special mention is his monograph *Rock Mechanics Principles* (first published in 1965), with four editions and translated into French, Spanish and Chinese, and a reference textbook for many years in Canada and internationally. Another major achievement was the organization and direction of an intensive five-year research program which resulted in the publication in the 1970s of CANMET's Pit Slope Manual, which was enthusiastically received by the mining industry, both in Canada and abroad.

Outside of engineering, Donald was an avid runner, tennis player and squash player. His other interests included history, music, sports and the outdoors.

Donald was married to Sally Carling and they had four children: David, Louisa, John and Diana. He succumbed to kidney cancer on 19 August 1981 at age 57. He was successful and accomplished, and lived a full and rich life.



Donald and his daughter, Louisa, canoeing on Centennial Lake (ON), 1972.