UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Memorial Tribute to

WILLIAM DOUGLAS BAINES

Professor Emeritus
Department of Mechanical and Industrial Engineering

October 31, 2018

Be it resolved –

> THAT the Council of the Faculty of Applied Science & Engineering record with deep regret the death on August 28, 2018 of Professor Emeritus William Douglas Baines.

William Douglas Baines was born on February 11, 1926 in Edmonton, and he was raised in that city. Doug, as he was always known, went to the University of Alberta and took Engineering Physics. On graduation in 1947, he was the top student, winning the Gold Medal in Engineering. For postgraduate studies, he chose hydraulics and so went to the University of Iowa because of its renowned Hydraulics Laboratory, headed by the eminent Hunter Rouse, arguably the best hydraulics expert in academia at that time. Rouse was Doug's PhD supervisor, and Doug graduated in three years.

From Iowa, he went to Michigan State but stayed only one year because he did not enjoy teaching. He joined the Hydraulics Division of the National Research Council in Ottawa, and in three years became Head of the Division. At NRC, he became famous because of the Ripple Rock in the Campbell River basin in BC. This gigantic submerged rock had claimed many vessels and 114 lives. Doug's solution was to dynamite the granite obstruction, and he did so with 1300 tons of TNT. The event was so spectacular it was broadcast live on TV, and is still claimed to be the largest non-nuclear explosion in history.

He came to the University of Toronto in 1959, joining the Department of Mechanical Engineering. Hydraulics is normally in Civil Engineering, but that field had been well established in Mechanical, starting at its inception. Indeed, when the present Mechanical Building was erected in 1947, the Hydraulics Laboratory occupied the entire basement. To maintain strength in this field, the Head of the Department, Dr. Ross Lord, also an expert in hydraulics, recruited Doug, despite Doug's vow to "never teach again".

Doug became leader of the dominant fluids group in the Department. Because of his leadership, he succeeded Dr. Lord when the latter retired in 1971. Doug was appointed Chairman, because Heads had become passé. He administered adroitly in his characteristic low-profile way.

In research, Doug investigated flows of liquids having different densities. The most common words in the titles of his papers are buoyancy, gravity, turbulence and thermal. His research was fundamental and so he was well known internationally, resulting in invitations to spend time at major universities, including Cambridge and Grenoble.

On retirement, Doug turned his broad interests and intellect to, among other things, art classes, hiking, investing and beer tasting.

So what was Doug like? Obviously very bright, he was softly spoken and friendly, with a fine sense of humour. He enjoyed a good conversation, but disliked verbosity and what was not genuine. He had little patience for fools or foolishness. Perhaps his most singular trait was his ability to size up an individual or a situation, positively or otherwise, in a few choice words.

In summary, he was a superb engineer and an academic with high standards, and so he brought honour to our Faculty.

Be it further resolved –

> THAT this tribute to Professor Emeritus William Douglas Baines be inscribed in the minutes of this Council meeting, and that copies be sent to his family as an expression of the respect and gratitude of the members of this Council.

Prepared by Professor Emeritus David James