

NORMAN WILLIAM McLEOD, C.M. (1904–1989)

By EB Wilkins

From *Proceedings* of the 50th CGS Annual Conference, Ottawa 1997, pp. 3-15.

The impressive number of awards and honours presented to this distinguished engineer recognizes his significant contributions to highway and airfield pavement technology. The Proceedings of the 35th Annual Conference (1990) of the Canadian Asphalt Association, which were dedicated to his memory, contain an article on his life and work, which cannot be fully covered in this brief review.

Norman was born at Elora, Ontario and raised in Estevan, Saskatchewan. He obtained a BSc (chemistry) in 1930 from the University of Alberta and was hired by the Saskatchewan Department of Highways to develop a materials laboratory. While awaiting the arrival of equipment, he was instructed to design and control the construction of the first length of pavement for the highway network. An initial trial of a thin (20 mm) surfacing of oil-treated gravel placed directly on the existing smoothed road was constructed. McLeod was surprised after the spring thaw that only minor patching was required. As a result, a construction program was consequently implemented. Today, some 12,000 km of this type of surfacing serve low-volume traffic on rural roads in Saskatchewan.

He obtained an MSc degree from the University of Saskatchewan in 1936 and an ScD from the University of Michigan in 1938. He then worked for Imperial Oil as an asphalt technologist resolving pavement problems on a global basis. In 1945, when engineers in the Canadian Department of Transport, decided that American designs using soaked CBR tests were unduly conservative, Norman was asked to develop a system to reflect Canadian experience. He designed a comprehensive experiment, trained supervisors and crews to collect plate bearing and soils data from airfields across Canada, arranged with three university laboratories to test undisturbed soil samples, supervised the extensive data analyses and derived the design and evaluation method which is basically still being used by Transport Canada. McLeod presented full papers to the Highway Research Board meeting in Washington in December 1946, a remarkable achievement in terms of efficiency alone.

Norman retired in 1969 and joined McAsphalt Industries as Vice President in charge of engineering services. In keeping with his primary interests, he organized an asphalt laboratory that could provide accurate information for his global consulting practice. He always had a great interest in scholarly matters and became an adjunct professor at the University of Waterloo in 1970. He organized and presented many seminars across Canada that provided practical training for engineers and technicians relative to the design and control of asphalt paving mixtures.

Of the many awards and honours received, only a framed newspaper clipping marking his selection as the most valuable athlete for Saskatchewan in 1933 claimed space on the office wall of this modest gentleman. He not only anchored the pitching staff of the 'Regina Nationals' but was their leading batter. On one occasion, he pitched a double header and earned the designation 'Iron Man' by the press. Norman had a prodigious capacity for work and published more than one hundred significant papers and discussions on important aspects of pavement design, construction control, and performance monitoring.

Norman W. McLeod's lifelong pursuit of excellence in pavement technology fully warrants his recognition as a pioneer in this field. It remains a treasured privilege for his many friends and associates to have known such a fine gentleman and great Canadian engineer.