

HONORARY GRADUATE

Desmond Aubrey Pretorius

Born in Johannesburg in 1925, Desmond Pretorius attended Marist Brothers College, where he matriculated in 1942 with a first-class pass. From 1942 to 1948 he attended the University of the Witwatersrand, where he obtained the Bachelor of Science (Engineering) degree *cum laude* in Mining Geology in 1946 and the Master of Science (Engineering) degree also in Mining Geology in 1948. In 1970 he was awarded the degree of Doctor of Philosophy by this university.

Between 1947 and 1959 Desmond Pretorius worked in most countries throughout eastern and southern Africa, and in Greece, Egypt and Iraq. The thirteen years were spent working for government geological surveys, mining companies, exploration organisations, private consultants and international aid schemes.

In 1959 Desmond Pretorius returned to South Africa to head the then newly established Economic Geology Research Unit, an institution that was founded for applied research, and jointly sponsored by the Chamber of Mines of South Africa and the University of the Witwatersrand. EGRU, as the Research Unit is commonly referred to, was nurtured through infancy and guided to excellence in maturity over a period of thirty years by Professor Pretorius, who put to good use his practical experience gained in the years prior to his appointment as its Director. In this position he also held an *ad hominem* Chair of Exploration Geology at the University, a distinction conferred on him in 1961, and he fostered relationships with the mining industry in the formulation of strategy and tactics for mineral exploration, particularly in South Africa, but also in the southern hemisphere as a whole. He retired from EGRU in December 1990.

Whilst he was at EGRU Professor Pretorius pioneered the application of quantitative sedimentology in exploration as well as its use in the exploitation of the gold deposits of the Witwatersrand. The approaches he developed have been applied in palaeoplacer gold-uranium districts throughout the world. The work was not only important to industry in its search for new deposits and in extending known ones, but was also seminal to the basic understanding of the processes by which these greatest of all gold deposits and their host strata were transported and laid down. A second major research contribution was work on the tectonic evolution and framework of southern Africa, which has given us improved insights into the metallogeny of this vast region and the origin of its all-important immense reserves of gold, diamonds, chrome, platinum-group metals, and manganese.

Also whilst at EGRU Professor Pretorius made the Unit a vehicle whose role the industry in other developed nations of the western world would do well to contemplate. It was he who brought the unit to rich fulfilment of its original mandate of effecting improved interaction between the minerals industry and the academic environment. Industry benefited in improved efficiency in exploration and utilisation of mineral resources, and the science of Economic Geology gained vastly improved basic knowledge of ore deposits. EGRU became the prototype of three other comparable organisations in southern Africa: in Cape Town, Pretoria and Harare. Professor Pretorius was also consulted by the Australian mining industry which investigated the setting up of a similar organisation in that country during the 1970s.

Desmond Pretorius played a decisive role in training, supervising and monitoring numerous masters and doctoral candidates, whose work, among that of others, led to the wide dissemination of quantitative sedimentological techniques of ore-resource evaluation. His role as a teacher who presented stimulating lectures to two generations of undergraduates at Wits and elsewhere has similarly been of incalculable benefit to the mining industry. Many of his students have distinguished themselves and today hold senior and influential positions both in the mining industry and in academia.

Professor Pretorius has held visiting professorships in the United States and Australia and has been an invited speaker at universities and research institutions in Germany, Switzerland, Canada, the United States, Australia, Zimbabwe and South Africa.

A long list of awards stand to his credit. In 1949 the Geological Society of South Africa conferred on him the Corstorphine Medal for his Master of Science dissertation. The Geological Society of South Africa presented him with its highest award, the Draper Memorial Medal. In 1981 he received an Honorary Fellowship of the Geological Society of America, 'a singular honour given by the Society to individuals who are not residents of North America who have distinguished themselves as geological investigators'. In 1986 honorary life membership of the Geological Society of South Africa was awarded to him. The highest award of the Society of Economic Geologists, the Penrose Gold Medal, was presented to Professor Pretorius in St. Louis, USA, in 1989. In 1990 the Geological Society of London conferred on him the William Smith Medal, awarded for distinguished achievement in the field of applied geology. The most recent honour bestowed on Professor Pretorius was the Brigadier Stokes Memorial Award for 1993, presented to him by the South African Institute of Mining and Metallurgy. In doing so the SAIMM stepped, for the first time in its history, outside a confining practice that limited honorees to the technologies of mining or metallurgy, or to the captains of the industry which it serves, and in its hundredth year selected a geologist for its highest accolade.

Desmond Pretorius has contributed enormously to the science of Economic Geology both within South Africa and around the world. His dignified presence has made him a legend among his contemporaries and his students and fellow scientists at EGRU and in the Department of Geology at Wits. All benefited enormously from the discipline he instilled in the working environment as well as the rewards he extended for a job well done.

The University is proud to be able to express its appreciation of the lifelong invaluable work of one of its distinguished graduates by conferring on Desmond Aubrey Pretorius the highest honour it can bestow, the degree of Doctor of Science *honoris causa*.