Daniel N. Dietz

1913-1988

By Michael Prats

Daniel N. Dietz, a consulting engineer since 1984 after his retirements from Shell International Petroleum Maatschappij and then from the Delft University of Technology, died on April 15, 1988, following protracted lung complications. He was born in The Hague, The Netherlands, on November 7, 1913. In the almost five decades of his professional career, Professor Dietz left his footprints all over the field of petroleum technology and, later, mining engineering.

Daan graduated from the Delft University of Technology with a M.Eng. in engineering physics in 1940. His plans to join the Shell Group were deferred because of the war, so he obtained a position at the Dutch Hydrological Survey as a researcher in ground water management. Daan went underground the last part of the war to avoid being sent to a labor camp.

In 1945 he finally joined the Bataafsche Petroleum Maatschappij (which later became the Shell International Petroleum Maatschappij) as a reservoir engineer. After assignments in Indonesia, Venezuela, and the United States, he returned to The Hague as head of the Reservoir Engineering Section. In 1961 he was transferred to the Koninklijke/Shell Exploratie en Produktie Laboratorium in Reiswijk,

outside The Hague, where he became head of the Thermal Recovery Section, a position he held until his retirement in 1973.

From 1973 to 1984 he was professor of reservoir engineering at the Department of Petroleum Engineering and Technical Geophysics, Delft University of Technology. During this period, Daan published on underground coal gasification, solution mining, subsurface disposal of radioactive wastes, seepage of oil from surface spills through shallow sands, pollution of ground waters, biodegradability of pollutants, and oil spill cleanup.

Most of Daan's early published work was in the field of reservoir engineering. His contributions to reservoir engineering included what has come to be known as the Dietz gravity tongue (from an article entitled "A Theoretical Approach to the Problems of Encroaching Edge Water" published in 1953, which can be considered the basis of modern reservoir engineering), the "steam soak" process, and the concept of partially quenched in-situ combustion. These ideas are widely known and respected, and have had a strong and lasting impact. Other noteworthy publications included an improved method for determining the average reservoir pressure from pressure build-up surveys and, more recently, a simplified technique for determining optimum production policy for a complex gas reservoir.

For his creative accomplishments in the application of scientific methods to the study of oil recovery processes, he received the John Franklin Carll Award from the Society of Petroleum Engineers in 1970. It is in this field, I think, that his reputation is greatest and most widespread. His interest in petroleum engineering was reflected by his contributions to the Society of Petroleum Engineers. He not only published regularly in the journals of this Society, but at the same time was a very active member, participating in committees, seminars, conferences, and meetings. Reservoir engineers the world over knew Daan Dietz and his work.

It is, however, very clear from the variety of articles published since his retirement from Shell that Daan Dietz had an universal mind, and that his interests certainly were not limited to reservoir engineering. Dietz has always emphasized physical understanding rather than mathematical virtuosity. In his view, mathematical virtuosity was acceptable only if the results could be formulated in simple physical terms.

Daan liked to formulate physical principles as paradoxes. His approach to problems was unconventional. Often he was able to pinpoint errors by physical intuition and made sharp remarks to those having difficulties catching on. Somehow, however, these remarks were appreciated by his students and staff as a particular sense of humor.

During his years at the University, Professor Dietz made high demands and thus attracted the better students in the department. There was a good atmosphere in which the formerly tiny section of reservoir engineering came to flourish as the largest section of the Petroleum Engineering Subdepartment.

Although I met Daan with some frequency, I never had the privilege of collaborating directly with him. But from watching others, I can say unequivocally that collaborating with Daan Dietz was definitely no laughing matter. It was an opportunity, but also a challenge: his combination of clear theoretical understanding and highly practical approach was difficult to match. His pipe in his mouth and pensive mood often gave way to broad smiles, but he was famous for his terse, sharp, and dry wit. At heart, however, he was a caring and gentle person.

Daan has given very much to the industry he worked for, and very much indeed to the students who studied under his guidance. He ranks high among the giants in reservoir engineering and related topics.

Whenever possible, Daan liked playing the violin in his office during the lunchtime break. He also spent as much

time sailing as weather permitted, and made many trips from The Netherlands to Belgium, France, England, and Denmark in his twelve-meter sloop.

Daniel N. Dietz was elected a foreign associate of the National Academy of Engineering in 1988, but did not live to be present at the induction ceremonies.