Donald F. Campbell, a Fellow of the Geological Society of America, died August 24, 1988, at the age of 75. He was one of the earliest American geologists to carry on independent explorations for mineral deposits in the interior of Brazil, and the expertise he gained made him much in demand by mining companies throughout his career. He also made early application of radar and geophysical studies of jungle-covered areas in Brazil.

Don was born July 6, 1913, in Pennsylvania Furnace, Pennsylvania. He spent his early years on the family farm near State College, Pennsylvania.

He attended nearby Pennsylvania State University, where he received a Bachelor of Science degree in geology in 1934. After experience working in gold mines in Canada and the oil fields of Texas, he entered Cornell University, where he soon was appointed an instructor in geology. In 1938 he completed his Master of Science degree in economic and structural geology.

Don then began what would become his lifelong career in South American geology, when he accepted a position with the Mauricio Hochschild S.A.M.I. Enterprises as chief geologist at the Compañía Minera de Oruro in Bolivia. While there, he studied the silver-tin deposits at Oruro and the tin mine at Colquiri.

Campbell returned to the United States in 1941 for graduate study at the University of Arizona in Tucson, where he worked on a thesis on the structure and mineralization of the Colquiri mine under the direction of B. S. Butler. In 1942, shortly after the beginning of World War II, he left Tucson to work as a mining engineer for the Reconstruction Finance Corporation. Soon, he took the opportunity to go to Brazil as geologist for the Foreign Economic Administration in Rio de Janeiro. There, he investigated the mica and quartz pegmatite deposits of Goiânia and Minas Gerais as part of the U.S. effort to increase the production of these critical materials.

In 1946 Don returned to the University of Arizona, where he completed his thesis and received his Ph.D. in economic geology and mining engineering. Later the same year he began work in Brazil as geologist for the Conselho National de Petroleo in Rio de Janeiro, where he carried on reconnaissance exploration for petroleum in northern Brazil and participated in the training of young Brazilian geologists. While working in Sergipe, he demonstrated the first surface evidence of the Carmopolis oil and potash basin.

During these years in Brazil Don met America Oliveira, and they were married in Rio de Janeiro in 1948.

Late in 1949 Campbell began his explorations for manganese in the Amazon basin. He worked his way up the Sucunduri River in Amazonas and discovered manganese deposits near its headwaters. He then organized searches, backed by the Union Carbide Corporation of New York, for manganese deposits in the Amazon basin and in the Mato Grosso along the Paraguay River on the western border of Brazil with Bolivia. This latter project lasted for two years and...
resulted in the discovery of new deposits in previously unexplored parts of the Corumbá district in Brazil.

In 1953 Union Carbide called upon Don to organize a program of mineral exploration of two large concessions in Angola, West Africa. From headquarters at Nova Lisboa (Huambo), he directed explorations for manganese and sedimentary iron deposits in western Angola. He also conducted searches for possible extensions of copper and manganese deposits from the Belgian Congo (Zaire) and Northern Rhodesia (Zambia) into the Zambezi river basin in eastern Angola. For this project Don gathered geologists from Canada, Brazil, and the United States.

Campbell left Angola in 1954 to return to Brazil, where he became exploration project manager for Kaiser Aluminum & Chemical Corporation. He carried on widespread prospecting for bauxite along the northern tributaries of the Amazon River in Brazil. Later, from a headquarters in San José, Costa Rica, Don directed a group of geologists and engineers in a search for bauxite extending southward to Panama and northward into Guatemala.

In 1958 Don accepted a position as managing director of Geoprosco Brasil, S.A., the Brazilian subsidiary of the Geophysical Prospecting Company, Ltd., a member of the Cementation group of companies in London. He organized geophysical and geological service companies that operated in Brazil, Bolivia, and Argentina. This connection continued until 1961 when Campbell took the position of professor of economic geology at the Escola Nacional de Geologia in Rio de Janeiro. During his three years there he had the opportunity to introduce many Brazilian students to the mineral deposits and mines of Brazil through his lecture courses and field trips. He prepared a two-volume syllabus in Portuguese to use in these courses.

Campbell joined the U.S. State Department in 1964 to spend half a year in Washington, D.C., before being assigned as minerals attaché to the U.S. Embassy in La Paz, Bolivia. There, he became reacquainted with the areas that were his first mining interest. He visited all the major tin and tungsten mines for his reports to the State Department on the status of the mining industry. Two years later, he returned to Rio de Janeiro to work for the U.S. Geological Survey–United States Aid Commission on a stratigraphic reconnaissance between the Minas Gerais iron deposits and areas in northeastern Bahia.

Early in 1967 the American Cyanamid Company hired Campbell to carry out reconnaissance for phosphate deposits in northeastern Brazil. A year later he became a consultant to W. R. Grace & Company, for whom he performed an extensive examination of the scheelite deposits in the state of Rio Grande do Norte and of the Jacobina gold district in the state of Bahia. Later in 1968 with Geo-Mineração Limited of Rio de Janeiro, he conducted geological reconnaissance of the Curuá River in northern Pará. This work revealed the presence of bauxite on the Curuá plateau.

In 1969 Campbell was appointed geological director for the National Lead Company, S.A., Buenos Aires, Argentina. He conducted examinations of National Lead mines and traveled widely in western Argentina to examine potential Andean mining projects. He also made a critical examination of the Argentine National Reserve areas of the Fabricaciones Militares. These mineral reserve areas along the flank of the Andes had been opened for exploration bids by private companies, but he judged that none was worthy of follow-up by the National Lead Company.

In 1970 Campbell moved back to Brazil as technical director of Mineração Araçazeiro Limitada to conduct a joint venture in cassiterite exploration in the territory of Rondônia. This project was backed by Companhia Cimento Portland Itaú, and National Lead Industries, Inc. In the following years his exploration work centered on the Candeias district, the Rio das Garças district, and the Caritianas-Pedra Branca district. Large tonnages of placer tin eventually were discovered in deep paleochannels in several of these areas.

Late in 1973 Don became a private consulting geologist and mining engineer. With his
broad experience in exploration of the rivers of the Amazon basin, he specialized in the tin and gold to make expert use of airborne radar and satellite imagery in the search for favorable structures for placer concentrations. During these years Don staked several large claims along the Madeira and Curuquete Rivers for their tin potential and sought financial backing from major mining companies.

Don retired in the early 1980s when he found his activities restricted by the developing illness that resulted in his death in 1988. He is survived by his wife, America, by sons Donald Jr. of São Paulo, Brazil, and Alan of Coral Springs, Florida, and by four grandchildren.

In my long association with Don, since our graduate years at the University of Arizona, I was impressed by his ready sense of humor, his strong attachment to his family, and his enthusiasm for exploring remote territories. He had a keen intuition, based on years of experience, about where to look for that next ore deposit. He always applied the latest prospecting techniques, along with what he had used so well throughout his career—getting out and looking.

SELECTED BIBLIOGRAPHY OF D. F. CAMPBELL

1946 Quartz crystal deposits in the state of Goiás, Brazil: Economic Geology, v. 41, p. 773–799.
1949 Relatorio preliminar sobre a geologia da bacia de Maranhão: Rio de Janeiro, Conselho Nacional de Petroleo, Boletin no. 1, 130 p.