Memorial to Richard Philip Fischer
1910–1991

ALFRED L. BUSH
U.S. Geological Survey (retired), Denver, Colorado 80225

With contributions from
ROBERT A. CADIGAN, WILLIAM D. CARTER, FRED W. CATER,
WARREN I. FINCH, HAROLD KIRKEMO, PHILIP B. MUDGETT,
and DANIEL R. SHAWE

Richard P. (Dick) Fischer, officially a member of the U.S. Geological Survey from 1937 to 1974, and unofficially a member of the Survey family for the rest of his life, died of heart and respiratory failure at the age of 81 on September 18, 1991, in Grand Junction, Colorado. He was a world-recognized authority on the geology and resources of uranium and vanadium, and the father of the massive and intensive USGS Colorado Plateau uranium project.

Dick was born in Marietta, Ohio, on July 2, 1910, to Daisy (Elliott) and Harry P. Fischer, a professional photographer. After Marietta High School graduation in 1928, he earned a B.A. degree in geology from Ohio Wesleyan University in 1932, and M.A. and Ph.D. degrees in geology from Princeton University in 1934 and 1936, respectively. He worked briefly with the Newfoundland Geological Survey in 1936 and then began his long and distinguished career in the U.S. Geological Survey in May 1937.

In those days, the Survey selected its appointees from the famous (and infamous) civil service examination in geology. Virtually all seniors and graduate students took the exam for what was then called the P-1 and P-2 rating (junior geologist and assistant geologist). Competition was very stiff because 1937 was the midst of the Great Depression. That year the Survey hired two geologists for the entire Geologic Branch (now called the Geologic Division), and Dick was one of them.

His first assignment was helping Dave Andrews, plane-table mapping in the Bighorn Basin of Wyoming for the Fuels Section; his second job was assisting Ed McKnight in the study of the Picher Pb-Zn district, Oklahoma and Kansas, from 1937 through early 1941.

His lifelong association with the Colorado Plateau began in 1934 with his graduate studies of the sedimentary-rock-hosted deposits of copper, vanadium-uranium, and silver in the Southwest. In 1937 in his third published paper he advanced the idea that the vanadium-uranium ores were syngenetic in terms of the concentration of elemental metals and in deposition of the beds, but epigenetic in terms of deposition of present-day ore minerals. He always thought that the deposits were formed very shortly after the deposition of the sedimentary rocks in which they are found. These concepts were borne out later by detailed studies by others in the 1970s and 1980s, using sophisticated isotopic and geochemical techniques not available to him. His detailed descriptions of the habits and environments of the deposits on the Colorado Plateau led him to the concept of the Uravan Mineral Belt and thus to the discovery of numerous deposits by the mining industry and to the identification of other belts of deposits in Utah and New Mexico by federal and industry geologists.
Concurrently with the Picher district study (1939–1941), he returned to head the Colorado-Utah vanadium project as part of the Strategic Minerals Program. Throughout the war years (1941–1945) he was in charge of the Colorado Plateau vanadium project, with greater emphasis after May 1944 on the uranium component at the request of the Manhattan Engineering District (better known as the Manhattan Project). Earlier, in 1942, he had reported on the world’s uranium resources for the Office of Scientific Research and Development. At one stage of his wartime studies of uranium, he was prohibited by the government, overly intent on security, from borrowing from the library one of his own publications! The Colorado Plateau work was interrupted in 1945 by an assignment in Germany for the Intelligence Section of the Army Corps of Engineers, European Theater of Operations (ETO), to study German ore supplies and the use of vanadium, uranium, niobium, lead, and zinc; the engineering geology of underground bunkers and factories; and, in addition, military geology functions and personnel. During one of the Survey’s financial hard times, he supervised preparation of Missouri River Basin maps showing metallic mineral resources (1945–1946). In 1946 he was part of the Canyon Ferry, Montana, mapping project, along with J. B. Mertie and S. W. Hobbs, which preceded the building of the Canyon Ferry Dam that impounds Canyon Ferry Lake.

From 1947 through 1954, Dick’s main field of study was the uranium-vanadium deposits of the Colorado Plateau and, later, worldwide. Through 1954 he supervised exploratory drilling, geologic mapping, and topical studies for uranium resources and assessment on the Colorado Plateau, sponsored by the Atomic Energy Commission. By the end of 1954 approximately 180 people were assigned to the Colorado Plateau project; through 1958, nearly 500 people had been employed at one time or another. From 1954 through 1974, he conducted studies of the geology and resources of both uranium and vanadium, with emphasis on vanadium commodity studies after 1964. As a result of his vanadium commodity studies, he predicted that titaniferous magnetite deposits might become the world’s main source of vanadium, a forecast now realized. This period was interrupted by a stint of mapping, sampling, and resource assessment for the Wilderness Program in the Uncompahgre Primitive Area and for the Heavy Metals Program in the northwest San Juan Mountains, both in Colorado.

Dick received the Interior Department’s highest honor, the Distinguished Service Award, in 1973 and retired at the end of June 1974. He was the senior author of 52 and coauthor of 12 additional published reports, author of ten and coauthor of two abstracts, and author of 51 and coauthor of three administrative, open-file, and classified reports.

In October 1987, Dick was honored at the first reunion of the Colorado Plateau project, 40 years after its inception. He was awarded the Leather Medal with Grand Junction Dangle, and an appropriate scroll, in recognition of his longevity and steadfastness in dealing with Washington throughout the Atomic Energy Commission–entangled days. Balancing all the conflicting aims required self-control, tact, and survival instincts.


Dick and Mary L. Barry were married in Grand Junction in 1952, beginning a union that lasted for 33 years, until she passed away in 1985. He is survived by his son and daughter-in-law, Michael and Jill, by his daughter and son-in-law, Barbara and Jack Byrne, and by two grandchildren, Jeff and Kelley. He was active both in church work in Lakewood, Colorado, and later in Grand Junction, Colorado, and in the Boy Scouts of America.

He was compassionate and loyal to his friends and co-workers and had a dry sense of humor. Although a perfectionist, he tried to be as practical as possible about everyday problems. Colleagues have commented on his essential fairness; he was a model of probity, a keenly
perceptive scientist with an analytical mind and very high standards; he was highly esteemed by his colleagues and was dedicated to the welfare of the Survey. We have benefited from his presence; we are poorer for his passing.

SELECTED BIBLIOGRAPHY OF R. P. FISCHER


