

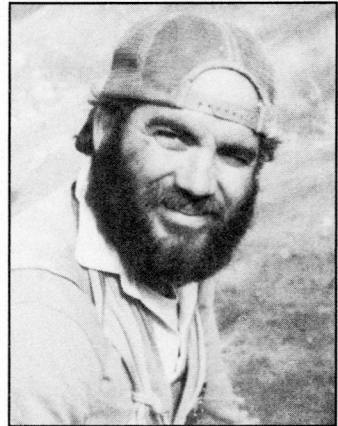
# Memorial to John Thomas Dillon

## 1947-1987

JOHN C. CROWELL

*Institute for Crustal Studies and Department of Geological Sciences,  
University of California, Santa Barbara, California 93106-1100*

John T. Dillon, a member of the Geological Society of America since 1971, died tragically with his father, Stephen Patrick Dillon, in an airplane crash in the Brooks Range, Alaska, while returning home from field work in July 1987, thus ending John's productive and promising geological career. He already had contributed significantly to understanding of the complex tectonics and regional geology of southeasternmost California and to that of the Brooks Range region of Alaska. He left behind significant publications, several incredibly detailed geologic maps in the compilation stage, a large number of geochronological dates from carefully collected samples, and a memory in many of us who knew him as a productive and energetic geologist and as an enjoyable field companion.



John was born in Fort Worth, Texas, on December 17, 1947. He moved at a young age to California with his family and graduated from Santa Monica High School in June 1965. He entered Santa Monica City College in September, majoring in psychology, and then attended the University of Hawaii, Honolulu, for a semester until June 1967. During the summer of 1967 he worked as an underling for Douglas Aircraft Company in Santa Monica, and in 1968 as a jug hustler for a Shell Oil Company seismic crew based in Midland, Texas. He entered California State University, Los Angeles, in September 1967 and graduated in June 1970, with a Bachelor of Science degree in geology and worked that summer as a geologist for Falconbridge Nickle Mines, Vancouver, British Columbia.

During his time at Cal State L.A. he acquired a reputation as an enthusiastic field geologist. He came to the University of California, Santa Barbara, in September 1970, which is when I first met him. He graduated with a Ph.D. in geology in 1975, and quickly established himself as an indefatigable field geologist, participating in most of the departmental field trips. He was always the first to clamber up an outcrop and note with enthusiasm what bit of information the rocks revealed.

He began a thesis project within the central California Coast Ranges, and mapped a complex area where strata of the Mesozoic Great Valley Sequence are faulted against melanges of the Franciscan Complex. This investigation stimulated his interest in problems concerning the history of the San Andreas fault system. Just a few months before his death, we discussed the possibilities of his finishing up this important work, which unfortunately will now remain incomplete and unpublished.

In the early 1970s, a prime question facing tectonicists in California was whether an inactive branch of the San Andreas system extended through the desert of southeasternmost California and whether such a fault might have been active in pre-Miocene time. The region was unmapped in any detail. John enthusiastically joined a project, supported largely by the National Science Foundation, to investigate this enticing region just north of the Mexican border, where outcrops were numerous and field relations obscured only by wide spreads of alluvium lying

between rugged ranges. While Gordon Haxel and Bruce Crowe mapped adjoining areas lying near the Picacho Mining District, John mapped the south-central Chocolate and Cargo Muchacho mountains. The small group of students became known as the "Picacho Muchachos."

John's superb thesis map, the backbone of his dissertation along with supporting petrological and other data, has been utilized by many geologists, resulting in several publications. His area included many small abandoned mines and prospect pits dug early in the century; this area now contains the huge Mesquite gold mine. He elucidated the history of the Chocolate Mountain thrust, which emplaced Precambrian and other crystalline rocks above the mesozoic Pelona-Orocopia Schist, and which is now known to be one of the major structures in California. His studies add much to our understanding of the mid-Mesozoic age of the protolith of the schist and to details of its subsequent metamorphism and structural emplacement.

John was a tireless and self-reliant field geologist. On one occasion, he was in the field alone in desolate country when his Land Cruiser blew a gasket or had valve trouble. He was expecting the breakdown, and had tools and gear aboard, so he pulled beneath the shade of a drooping mesquite tree and spent the next two torrid days removing the engine's head, grinding valves, and replacing the head and gasket. On another trip, when I was with him, we came across a newly killed deer lying beside a desert gravel road. John jumped out, decided it was still warm and not at all spoiled, and hacked off a haunch, which we barbequed that evening over our campfire.

From 1975 to 1977, after obtaining his doctorate, John was employed by the Bureau of Land Management for offshore studies along the California coast. He was responsible for preparing environmental impact statements and assessing seismic and landslide hazards for lease sales along the Pacific outer continental shelf. He was, however, primarily a field geologist with tectonic interests, so in 1977 he joined the geologic staff of the Alaska Division of Geological and Geophysical Surveys, and was also appointed adjunct professor of geology at the University of Alaska, Fairbanks. He quickly became fascinated with the Brooks Range, and spent the next decade studying tectonic evolution and geochronology of the mountain system. He especially tackled the complex "schist belt" and rocks of the Angayucham and Ruby terranes to the south.

As John Decker wrote,

John's work centered in the Wiseman area of the central Brooks Range. There he mapped 18, 15-minute quadrangles and was the senior author of the Wiseman quarter-million sheet. Although John's legacy may be his maps, the contribution he was most proud of was the isotopic dating of plutonic rocks through the Brooks Range. When John began his work in the region, it was widely believed that the sparse plutonic rocks were intruded during Cretaceous time. The Cretaceous age was supported by K-Ar ages and the widespread occurrence of Cretaceous tuff and bentonite beds on the North Slope, north of the Brooks Range. In 1987, John, working with G. R. Tilton at the University of California, Santa Barbara, began a systematic U-Pb and Pb-Pb dating program that eventually showed that these plutonic rocks were intruded in Devonian time and that the K-Ar "clocks" had been "re-set" during Cretaceous metamorphism. During the course of his dating studies, John published many abstracts and gave presentations supporting his Devonian interpretations. These heretical concepts resulted in vigorous discussions, the sort of give-and-take that John loved best—taking a radical position, publicly presenting it, and defending it long into the night. By 1984, John had won over all detractors but one, his good friend, Irv Tailleux. In 1985, John and Irv went together to the Okpilak Batholith in the Arctic National Wildlife Refuge. This was the last "Cretaceous" pluton that John and George had not yet dated. John and Irv came back to camp during this field trip. They had seen field relations which showed Mississippian strata clearly derived from the Okpilak intrusion, and not hornfelsed by the pluton as Irv had suspected. This was one of John's finest hours as a geologist. He and Irv argued, laughed, and drank far into the night. Irv may not remember it exactly this way, but for those of us who were there, that's the way it was!

As his friends R. K. Crowder, J. E. Decker, and C. G. Mull wrote,

John could be as intense and as aspiring as the mountains he wandered. He was unstoppable on the outcrop. His 20-hour field days and late-night traverses were the subject of horror stories by graduate students. When funds for helicopter support of his projects were low, John compensated by using imported South American llamas as pack animals, a story featured in a 1986 AAPG *Explorer* article.

John had a deep desire to see that the data he acquired were utilized by the public that was paying him to do what he most enjoyed. He was therefore in regular contact with the leading politicians and opinion makers in Alaska, including the then Governor Steve Cowper, trying to see that earth science information was utilized in land-use decisions.

C. G. (Gil) Mull continued,

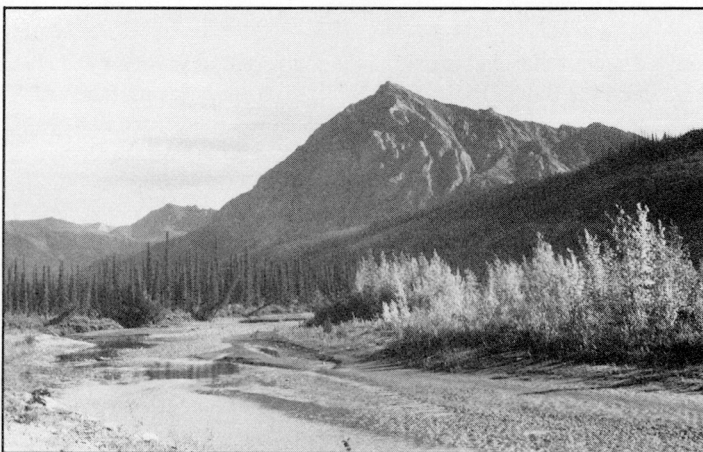
John and his wife Mary built a home in the forested mountains northwest of Fairbanks. John was a conservationist in the true sense of the word in that he practiced what most people only refer to as something that should be done. For example, in expanding a cabin into a full-sized house that he and Mary lived in for several years, he decided that he wanted to have a solar heating system. Obviously, in Fairbanks there is a period during the middle of winter with very little sunlight and John determined that the cabin was not properly oriented for optimum solar gain. So, before beginning the expansion project, he had the cabin jacked up and rotated about 17 degrees before building a new foundation. His heating system was a complex combination of a solar system augmented by a unique wood and/or oil burning furnace used when there was insufficient solar radiation during the  $-40$  to  $-50^{\circ}$  winters.

While at Santa Barbara in 1977, John married Mary Moorman, until recently a geologist for the Alaska Survey. They had three children, Stephen Patrick Noah, Panika Marie, and Abraham Francis, who were 4 years, 3 years, and 1 year old, respectively, at the time of John's and their grandfather's death. John is also survived by his mother, Carol, and four brothers and six sisters. He will long be remembered and missed by his family, and by all of us who knew him as a friend and colleague and through his publications and maps.

His memory is carried forward into the future in two other significant ways. The John T. Dillon Alaska Research Award has been established within the Geological Society of America Foundation for the best research proposal submitted to the Society concerned with Alaskan geology. In addition, a prominent peak in Alaska's south-central Brooks Range, just east of the Dalton Highway along the Trans-Alaska Pipeline near Mile 212, has been officially named "Dillon Mountain" by the U.S. Board on Geographic Names. His Alaskan friends have prepared a bronze plaque, to be placed on a granite boulder at a scenic turnout along the highway across from Dillon Mountain.

#### Acknowledgments

In preparing this memorial, I much appreciate the assistance of John E. Decker, C. G. Mull, and other friends of John Dillon.



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