

Memorial To Ernest Dobrovolny

1912–1996

DONALD E. TRIMBLE

2640 Lamar Street, Wheat Ridge, CO 80214

HENRY R. SCHMOLL

2550 S. Meade Street, Denver, CO 80219

WALLACE R. HANSEN

70 S. Everett Street, Lakewood, CO 80226

Ernest Dobrovolny, a geologist of international stature, died in Lakewood, Colorado, on May 18, 1996. Ernie (as he was known to everyone) was a dedicated, unassuming man of great integrity, deeply devoted to his family, friends, and profession. He was an early missionary for what was then the just-emerging practice of engineering geology. In his own words he was “committed to the challenge of applying geology to civil-engineering works,” a motivating force throughout his professional life.



Ernie was born in the tiny farming community of Delmont, South Dakota, on August 27, 1912. His father, Hungarian origins and Czech name notwithstanding, was a minister to German-speaking congregations in South and North Dakota and later in Missoula, Montana, where Ernie graduated from high school. As a child, Ernie spoke only German until he entered grade school, and he loved to speak it for the rest of his life when the occasion arose. In 1935 he received his bachelor's degree in general science from Kansas State College of Agriculture and Applied Science in Manhattan, Kansas, where an older brother, Charles was a professor of microbiology. He earned his master's degree in geology at the University of Michigan in 1940.

On March 31 of that year, he and Elsie Prickett were married in Ann Arbor. Ernie and Elsie were blessed with three sons, Peter, Paul, and David, and a daughter, Ann.

In November 1940 Ernie gave up a teaching assistantship at the University of Michigan to accept a geological position with the State Highway Commission of Kansas under its chief geologist, Seward Homer, who became a lifelong friend and mentor. During the next 1½ years Ernie and Elsie lived in a dozen different places in Kansas as he mapped and evaluated potential highway alignments and bridge foundations, some for what became the future Interstate Highway 70.

In June 1942, Ernie and Seward Homer both received appointments from the U.S. Public Road Administration to work on the Alaska Highway, then being built through British Columbia and the Yukon Territory to military bases in Alaska. For the next 1½ years Ernie worked on the many geological challenges related to highway construction in the harsh subarctic wilderness—opening and examining road cuts, mapping permafrost, studying bridge sites, and searching for suitable construction materials. In November 1943 his work in the North completed, he returned briefly to Kansas. At the urging of his brother-in-law, Ralph Imlay, a paleontologist with the U.S. Geological Survey, he began to work for the USGS, where he remained for the rest of his career. Joining the Fuels Branch of the Survey in Denver, Colorado, he was assigned to evaluate the petroleum potential of rock formations along the Mogollon Rim, Arizona.

Two years later, Ernie transferred to the newly formed Engineering Geology Branch of the Survey under Edwin B. Eckel, and within a few months, because of his background and experience, he became Eckel's assistant branch chief, a position he held for many years. In 1948 he drove a Survey vehicle over “his” road to Alaska to select an area for future engineering-geology investigations. He chose the Anchorage area, and from 1949 intermittently into the mid-1950s he and his associate, Robert D. Miller, mapped

there, naming the infamous, slide-prone Bootlegger Cove Clay and identifying many seismically hazardous areas that subsequently failed during the great earthquake of 1964. Both geologists gained local fame when their predictions proved accurate, and their publication became an instant best-seller.

During the balance of his career with the USGS, Ernie labored on widely varied projects in engineering geology. Perhaps foremost was a two-year assignment in 1954–1955 in La Paz, Bolivia, where he studied landslides, mudflows, and other geologic hazards related to land use in and around the city. For his contributions, he was honored with the esteemed “Condor of the Andes” award, a medal presented by the mayor of La Paz in a solemn ceremony attended by the president of Bolivia. (As a side effect of this and later work in Latin America, an occasional Spanish phrase replaced some of the German in his informal conversation.)

In 1957 Ernie was chief of the Cyclone Project at the Nevada Test Site, leading a USGS team doing geologic analyses for the U.S. Atomic Energy Commission. The first-ever underground nuclear test, at Rainer Mesa, was as yet untried. Little was known at that time about containment of such explosions or of possible unforeseen consequences, and some contractors hinted that the USGS was introducing an element of anxiety into the experiments. Ernie preferred to call it caution.

Analyzing geologic and engineering effects of large earthquakes at home and abroad was another highlight of Ernie’s career. Following a devastating earthquake in 1960 in southern Chile, he and his colleague, Richard W. Lemke, investigated its effects at the request of the Chilean government. Their studies were directed toward property damage, life-threatening landslides, and flooding from slide-dammed lakes, but they also evaluated areas at high potential risk from possible future earthquakes. In 1966 they returned to Chile to study the Taltal earthquake in the northern part of that country.

In 1964, less than a week after the Alaska earthquake of March 27, and with the state still vibrating from aftershocks, President Lyndon B. Johnson issued Executive Order 11150 establishing the Federal Reconstruction and Development Planning Commission for Alaska, which included all heads of federal departments and independent agencies having direct financial or technical roles in the reconstruction effort. Ernie was the engineering-geologist member of its six-member scientific and engineering task force, and its five-member field team. The task force was charged with assessing earthquake damage and delineating areas of moderate-to-high potential hazard from future earthquakes in that region of high seismicity.

Evolving from the longer term and more generalized recommendations of the task force, a new Anchorage geological project was launched in 1965, with the aid of two local geologists who were leaders in immediate post-earthquake investigations, Lidia Selkregg and Ruth Schmidt. Quite naturally, Ernie was selected to lead this work, assisted by Henry R. Schmol. Under other leadership such a project might have developed along traditional lines by merely carrying out its primary mission of expanding the existing geologic knowledge of the relatively small city of Anchorage and environs into the newly created and vastly larger Greater Anchorage Area Borough. In Ernie’s mind, however, the focus of the project was to provide an understanding of the importance of geology, in this geologically sensitive area, to local government officials. Ernie believed that these leaders could then guide development of the booming metropolitan area along geologically responsible lines.

In carrying out this work, Ernie devoted many hours and days to meeting with local politicians and their technical staffs, both on their turf, in meeting rooms, and to the geologists’ turf, in the field. In this process he was joined by Water Resources personnel of the USGS to whom such local cooperation was more traditional. Ernie also enlisted the aid of local media representatives, with whom he had established good rapport during post-earthquake days, in getting the message out to the public that federally funded geologists were still here, were concerned about the future of Anchorage, and were undertaking studies that would prove beneficial.

An amusing sidelight of his relations with the press occurred when William T. Pecora, then director of the USGS, was in town. Ernie’s picture appeared on page one of the *Anchorage Daily News* with some local story, whereas the story of the director’s visit to Alaska, with his picture, appeared on page two. Ernie’s most widely read and understood geological report, however, appeared in a local column in the

Anchorage Times, and concerned the measurement of the volume of glacier ice in the Anchorage Borough in terms of the number of martinis that could be made with that amount of ice.

Ernie also carried out geological assignments in other parts of the globe: Montana, Nebraska, Kentucky, Wyoming, Nicaragua, Peru, and Yugoslavia. After formal retirement in 1977, he worked cooperatively with seismologists studying the New Madrid seismic zone. He left behind a legacy of varied publications, technical reports, and maps in applied geology; a few more may yet appear posthumously. His written contributions will continue to be used by engineering geologists in the future as they have been in the past, written in language easily understood by geologists and nongeological users alike—an uncommon feat.

Early in his career Ernie proudly presented the results of some of his highway-related geological work to an august scientific body in Washington, D.C., and was greeted with the comment from a distinguished senior member, “Young man, do you know that you are prostituting the science?” Since then, times have changed, in part through Ernie’s own efforts.

For his many contributions to applied geology, Ernie subsequently received many honors in addition to his Condor of the Andes award. He was commissioned a Kentucky Colonel in 1962 by the governor of Kentucky, an honor earned by few geologists. In 1970 he received the Department of Interior’s Meritorious Service Award, and in 1981 he was granted an honorary doctorate and Distinguished Service Award by his alma mater, now known as Kansas State University. He was a fellow of the Geological Society of America, a member of the Association of Engineering Geologists, and a registered engineer in the State of Colorado.

Ernie will long be remembered for his many accomplishments, but especially for his contagious warmth, sly humor, and genuine caring for all humanity.

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