Memorial to Robert N. Farvolden
1928–1995

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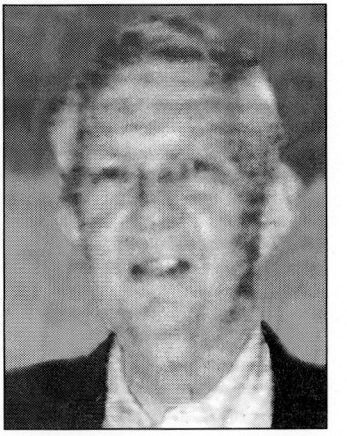

In September 1995 hydrogeology lost one of its leaders when Bob Farvolden died of complications resulting from cancer. I first met Bob as a graduate student at the University of Illinois. He had come from having established the ground-water section at the Alberta Research Council. Illinois was one of the few places to study hydrogeology in the late 1950s. We were all students of Burke Maxey, who taught in the geology department and was head of the Ground-Water Section at the Illinois State Geological Survey. Looking back, Bob went to Illinois to get a Ph.D. in order to teach at a university—teaching was clearly his chosen profession. He was deeply interested in ground water, and dedicated to the teaching of hydrogeology.

Bob was born in Forestberg, Alberta, Canada, in 1928, of Norwegian parents. He received his bachelor's degree in geology from the University of Alberta in 1951. He served in Korea as an officer in the Canadian Army, where he was decorated. He returned to Alberta with his wife, June Marie, and joined the Alberta research council to create a ground-water section—Canada's first ground-water research group.

One of Bob's strengths as a leader was the ability to attract bright colleagues and then delegate responsibility. He had just the right mix of dedication and enthusiasm for the work. His stint at the Research Council reflected his talent. There was an especially dedicated and talented group of young hydrogeologists at the Alberta Research Council during the time Bob led the group.

Bob went to the University of Illinois to study hydrogeology with Burke Maxey, who had worked in Nevada in the 1940s for the USGS; he and the Nevada state engineer, Hugh Schamberger, were close friends. Hugh contracted with Burke and several of his graduate students for a detailed study of the Humboldt River Valley. The ranchers around Lovelock, Nevada, were hoping to increase their irrigation supply through conjunctive use of ground water and surface water. Hugh, as state engineer, would have to sanction the project. Among the young hydrogeologists who worked on the Humboldt project were Bob Farvolden, Phil Cohen, John Hawley, Keros Cartwright, Lyle McGinnis, Bill Wilson, Adel Zohdy, and myself. These were especially good times; in Winnemucca everyone stayed in an apartment house owned by Irene True, a character out of the old west—she had driven the stage from Winnemucca to Boise in the early days.

Bob was a visionary and a great conversationalist. He looked critically at the world. He expressed his views on many topics, and often these views differed from conventional wisdom. This led to many lengthy, and sometimes heated, discussions. Bob pressed his views vigorously, but never with acrimony. While I often disagreed with Bob, I rarely came away without a new perspective.

In 1961, Bob and I spent the summer mapping the alluvial geology of the Lower Humboldt River basin. Nevada in the 1960s was economically depressed. Bob, June, and their young

daughter, Judy lived at Joe's Place, a tiny two-room house built of railroad ties, in Battle Mountain. June was pregnant at the time with their son Peter. In the field we visited many of the ghost towns associated with the mines of the area. Like most field geologists, we met and talked with numerous local people. Often the discussion turned to the collective Nevada dream—another mining boom. Many people had a mining claim here or there that they worked sporadically. Ironically, Nevada is now booming with a new gold rush; more than $10 billion in gold was taken from the state in 1995.

Burke Maxey, like Bob, had the ability to collect the best and the brightest students. Maxey's students created a generation of hydrogeologists in the U.S. and Canada, and he had a strong influence on everyone around him, including Bob. When Maxey moved from the University of Illinois to the newly formed Desert Research Institute (DRI) at the University of Nevada, where he was the principal hydrogeologist, Bob went with him. However, when the University of Illinois recruited Bob to fill the ground-water position vacated by Maxey, Bob signed on, becoming professor of hydrogeology at the university.

While at Illinois, Bob, with his long-time friend and colleague, George Hughes, began the study of the ground-water hydrology of sanitary landfills. Many of us joked about the work—"study garbage dumps." Nonetheless, this was pioneering work, and led to new insights into siting landfills.

After five years at Illinois, Bob wanted to return to Canada, and he moved to the geology department at Western Ontario University. Before long the University of Waterloo approached him with the idea for creating a center for ground-water teaching and research—a challenge Bob happily accepted. One of the first people Bob hired was John Cherry, who had received a master's degree at Illinois with Bob as his advisor. Bob also hired Emil Frind, who had worked with George Pinder on numerical models. George had also been one of Bob's graduate students at Illinois. Like Burke Maxey, Bob had the ability to attract good people to his vision for Waterloo.

At Waterloo Bob created the premier institution in the world in which to study hydrogeology. He went on to become dean of faculty, a position he held for five years. I remember him telling me one term was enough; any more and he would lose some of his effectiveness. Bob was smart enough to delegate responsibility, not meddle, and move on when he felt he had accomplished his goals.

During Bob's tenure at Waterloo he became interested in hydrogeology in Latin America, especially Mexico. He became fluent in Spanish and developed contacts with many prominent Latin American hydrogeologists, as he traveled to the region frequently. Several of his students did thesis research in Mexico. He was keenly aware that the Latin Americans had not begun to address the many environmental problems of the region. He made it his business to try to educate the leaders of the region about their pending problems.

Bob was interested and perceptive about the world around him. He was especially concerned about the health of geology as a profession and that, with the decline of both the petroleum and mining industries in North America, geology was becoming more and more academic, involved with esoteric problems that had little to do with people's everyday lives. He was especially concerned that the academic geological community was attempting to clone itself without regard to where students would find employment, other than in academia. Bob had a vision of geology as a pragmatic endeavor that served societies' everyday needs. In 1991, he and John Cherry wrote an especially strong editorial for *Geology* (v. 19, no. 5, p. 419) that reflected this vision.

Bob chose to retire at age 65. He could have assumed an emeritus position at Waterloo; however, he was determined to try something new. He interviewed for the position of senior scientific leader in the National Ground Water Association (NGWA) and was selected—he was the

natural choice. At NGWA, Bob created a biannual environmental forum that brought policy makers and scientists together to discuss mutual problems. He was keenly interested in promoting hydrogelogy internationally, especially in Latin America. His last action was to organize a meeting between the United States and Mexico regarding environmental problems. The successful meeting, in Mexico City, took place in December 1995, after Bob's death.

Bob was keenly interested in students, and he counseled, encouraged, and befriended them. He treated his students as his colleagues and was never too busy to listen to them.

In August 1995, Bob received the first annual President's Award (fittingly named for Burke Maxey) of the International Association of Hydrogeologists. In attendance at the ceremony were more than 50 Waterloo students; they wanted to be there to congratulate Bob and help him celebrate.

Bob is survived by his wife June, daughter Judy, and son Peter.

Bob Farvolden was a visionary. He had a view of what he thought geology, especially hydrogeology, should and could be. He had the opportunity at Waterloo to make his vision a reality, and he acted decisively to make it happen. The status of Waterloo University in the ground-water community is a tribute to Bob. Those of us who knew him well miss him deeply, especially his wisdom, kindness, and generosity. We especially remember and cherish his lust for life.

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