

Memorial to John Theron Sanford

1903-1981

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John Theron Sanford died suddenly of a heart attack at the age of 77 on May 19, 1981, at his retirement home in Highlands, North Carolina. He is survived by his wife Aletha Cramer Sanford, his son David Theron Sanford of Berkeley, California, his daughter Jonalee Vakautis, and two grandchildren of El Toro, California.

John was born December 8, 1903, to Eugene Theron and Martha Olsen Sanford in North Warren, Pennsylvania, near Titusville. Soon after, the family moved to Walworth, New York, where John went through grade and high school. John's father, who was a talented portrait artist, died shortly after the family moved to Walworth and before John was six; John's grandfather assumed the role of father and

had great influence on John. The grandfather had been involved in the oil business near Titusville and interested John in geology at an early age.

John Sanford attended the University of Rochester, graduating with an A.B. degree in 1926. He then proceeded to Princeton University for his graduate studies, where he earned an M.A. degree in 1929 and a Ph.D. degree in 1930. At Princeton, he was greatly influenced by Professor Benjamin F. Howell and became impressed with the beauty and geologic value of fossils, as indicated in some of his early writings. His doctoral thesis involved Silurian rocks of western New York, especially the Clinton Formation in the vicinity of Rochester. While finishing his thesis, he started working in October 1929 for the Buffalo Museum of Science in Buffalo, New York, as curator of geology and paleontology, where he stayed for the next two years. During this time, he met Aletha Cramer of Canandagua, New York, during her senior year at the Eastman School of Music, while she was practice teaching in Walworth, John's home town, and they were married in 1930. During his second year at the Buffalo Museum, John supervised the excavation of a mastodon at a site near Richmond, Indiana, which is presumably still on display at the museum.

John Sanford, now with his Ph.D., served as assistant professor at the University of Rochester from 1931 to 1936. Here he became more and more interested in the Silurian stratigraphy of western New York, studies which were to become his major research contributions until the time of his death.

Sanford shifted to commercial work as a member of the geological staff of the Magnolia Petroleum Company (now Mobil Oil) from June 1936 until August 1947. He started at Wichita Falls, Texas, doing well-site geology under John Sandidge. Later, in Oklahoma City, he did subsurface geologic mapping and research under Walter Moorman. John was mostly concerned with the stratigraphy of southern Oklahoma and the coordination of surfaced, seismic, and subsurface data. He set up and helped

organize a sedimentological laboratory while at Magnolia. He was also involved in the development of the Madill, Oklahoma, oil field.

John Sanford joined the staff of the newly organized geology department at Wayne State University, Detroit, Michigan, in 1947 as associate professor of geology, where he remained until his retirement in 1973. He was promoted to full professor in 1955 and named emeritus professor after his retirement. Here he taught many different courses at various levels, such as historical geology, paleontology, stratigraphy, sedimentology, and petroleum geology. Sanford planned, developed, and put into operation a comprehensive program at Wayne State leading to a master's degree in petroleum geology, which program was to remain the chief emphasis of the Wayne State geology department for many years. Sanford's program was highly regarded by several petroleum companies, and many Wayne State graduates hold responsible positions with leading companies today because of John's understanding of the training a prospective geologist needed to work successfully in the petroleum industry. As an associate of Sanford at Wayne State during this time, I believe that John's most lasting contribution to the geological profession was his teaching and inspiration of many fine young people now in the industry.

During his Wayne State years he was involved in field teaching in Wyoming and Montana in the summers of 1949 and 1953 as a research associate for the Department of Geological Engineering of Princeton University. Sanford also continued an industry connection with part-time consulting and exploration for petroleum and natural gas. The summer of 1949 was spent in the Absaroka Mountains of Wyoming for Phillips Petroleum Company and the summer of 1951 in the Bighorn Basin of Wyoming for the Gulf Oil Company. Most of his later consulting was in the Michigan Basin area, especially in southwestern Ontario for a glass manufacturing company that was trying to find its own natural gas source. In the summer of 1962, Sanford directed a summer institute in earth science for high school teachers, taught on the Wayne State campus in Detroit under a grant from the National Science Foundation.

Sanford was deeply involved with the Michigan Basin Geological Society for many years and was its president in 1954–55. He was an assistant leader for the society's annual field excursion to Manitoulin Island, Ontario, in 1954, and also for the excursion to the Silurian sections near Hamilton, Ontario, in 1972. He returned from retirement in 1978, again to organize and lead the society's annual trip to Manitoulin Island. At this time, he was the editor of a very comprehensive field guide published as Special Paper no. 3 of the Michigan Basin Geological Society. He served as vice-chairman of the geology section of the Michigan Academy of Science in 1957, and he was general co-chairman of the American Association of Petroleum Geologists' annual convention in Toronto in 1964.

Sanford enjoyed three sabbatical leaves during his tenure at Wayne State University. His first was in 1957–58 as a Fulbright Lecturer and advisor at the University of Dacca, then in East Pakistan. Here he not only taught but also helped plan a program in petroleum geology. In 1964–65, Sanford was appointed by UNESCO as an expert in petroleum geology to the Institute of Geology and Mining in Indonesia, but this was terminated after a couple of frustrating months due to Indonesia's withdrawal from the United Nations. John later completed that year as a UNESCO advisor to the Iraq Petroleum Research Institute in Baghdad. Sanford's third sabbatical was a study of Silurian sections in England, Wales, Scotland, Ireland, and on Gotland, Sweden, in 1972 as part of his own continuing research program.

Sanford's life-long interest and research efforts, beyond his intensive work and teaching in the petroleum field, have involved Silurian stratigraphy and correlation, first in New York, then in Michigan and Ontario, and finally in the British Isles and Gotland. To some of his friends he was known as Mr. Silurian. One of John's dreams was to eventually publish a comparison of the British and Gotland sections with the Niagaran sections in North America. In terms of general depositional environments, he felt it should be possible to make very realistic comparisons with the data that he and Robert E. Mosher (an analytical chemist in Detroit) had collected and to point out similarities and differences. Computer analysis of their large amount of laboratory data would have been the final step.

John Sanford was convinced that in addition to the more conventional methods of correlation a greater precision could be obtained by a description of sediments through quantitative chemical and physical analysis. He had already demonstrated that this approach could give valid correlation from rock outcrops to the subsurface and could differentiate between beds and formations in the subsurface, using very small samples. It was important to him in his research to extend the number of working parameters in order to develop a tool for solving problems of paleoecology, paleoenvironments, and paleogeography.

Sanford's last years of research were carried out after his retirement in a small laboratory in the basement of his home in the lovely Blue Ridge Mountains of western North Carolina, with occasional assistance in the geology departments of Clemson and Furman Universities in South Carolina. This work dealt mostly with the rocks collected in the British Isles and Gotland during his last sabbatical in 1972. John and Robert Mosher of Detroit had completed their work on the Gotland materials, and two papers have been accepted for publication in the *Sveriges Geologiska Undersökning* (S.G.U.). A compendium of all their data and field notes has been placed on file in the library of the S.G.U. and in the library of the Swedish field station Allekvia on Gotland for the use of interested researchers. Robert Mosher gave a paper at Allekvia in August 1981 with John as coauthor. Mosher plans to continue their research and to finish the work on the British sections.

Membership in many societies included the American Association of Petroleum Geologists (since 1944), the Geological Society of America (Fellow), the Paleontological Society, the Society of Economic Paleontologists and Mineralogists, the Geochemical Society, the Michigan Basin Geological Society as mentioned earlier, and the Circumnavigators Club. Some 46 articles by John T. Sanford have appeared in the publication of these and other societies, and a few more will appear posthumously. A selected list of these appears in the following bibliography.

John Sanford's students and his many other friends would certainly agree that as an individual John was indeed a gentleman and a scholar. He was generally good humored and enthusiastic at all times. He was helpful, generous, and considerate to others, and was always smiling and jolly, although he approached his teaching and research seriously. He was constantly active at one task or another—a busy man—but always with time to talk, give advice, or use his ready wit with students and other friends. He loved to travel and, fortunately, spent a month of his last winter in Spain with his wife Aletha. His principle hobbies, other than Silurian rocks, were stamp collecting, photography, and the feeding of the wild birds on his wooded lot. He was very active in the Lions Club of Highlands, North Carolina, especially in the hearing-aid project. We have lost a good comrade and a very fine geologist.

Acknowledgments

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