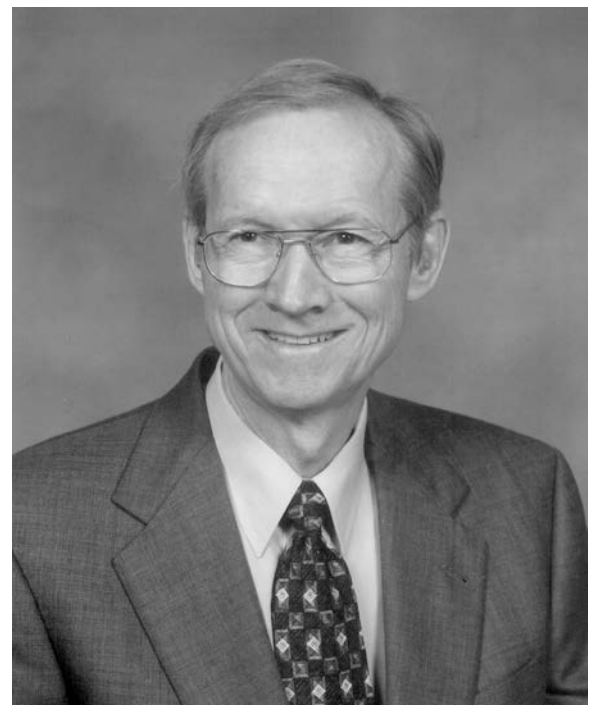
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JOE B. DIXON

1991 RECIPIENT OF THE CLAY MINERALS SOCIETY DISTINGUISHED MEMBER AWARD

DR. DOUGLAS W. MING



It is an honor and a thrill for me to introduce Dr. Joe B. Dixon as the recipient of The Clay Minerals Society 1991 Distinguished Member Award. He has made many significant contributions in soil and clay mineralogy. Joe began his journey in academic excellence at the University of Kentucky where, in 1952, he obtained a B.S. with high distinction in agriculture. Service to his country called him away to the army for two years; however, Joe quickly returned to the University of Kentucky and graduated in 1956 with a M.S. in agronomy (soil science) where he focused on the clay mineralogy of Kentucky soils. His next academic adventure took him to the University of Wisconsin where he worked under the watchful eye of Professor Marion L. Jackson and graduated in 1958 with a Ph.D. in soil science. Joe continued his work with Professor Jackson for an additional year as a National Science Foundation Postdoctoral Fellow where he refined techniques to characterize clay mineralogy in soils. He accepted a faculty position at Auburn University in Alabama in 1959 where he taught courses in soil mineralogy, soil taxonomy, and geology. Joe moved to College Station, Texas, in 1968 to become a Professor of Soil Science in the Department of Soil and Crop Sciences at Texas A&M University where he taught soil mineralogy. He retired in 2001; however, Joe continues to conduct research today as an Emeritus Professor.

Joe has had a stellar research career in developing techniques to characterize clay minerals in soils. I have been particularly keen on two of his technique papers. One of his first clay mineralogy technique papers was published in Science in 1959. The article entitled *Dissolution of interlayers from intergradient soil clays after preheating at 400ºC* by J.B. Dixon and M.L. Jackson described a procedure to characterize interlayers from chlorite-vermiculite-montmorillonite intergrades. Dehydroxylated interlayers were removed by boiling the preheated sample in 0.5 N NaOH for 2.5 min. Elements extracted were then identified spectrophotometrically and their amounts in interlayer positions estimated. The sample was subsequently prepared for the determination of expanding and non-expanding clay mineral components. The second article is especially a favorite of mine because it quantified the amount of kaolinite in highly weathered soils by thermal analysis and selective dissolution methods. The article entitled *Quantitative analysis of kaolinite and gibbsite in soils by differential thermal and selective dissolution methods* by J.B. Dixon was published in *Clays and Clay Minerals* in 1966. The technique is suited to quantifying kaolinite, gibbsite, and amorphous phases in the clay fraction of highly weathered soils of the southeastern United States. The differential thermal analysis technique compared the peak area of kaolinite dehydroxylation in the soil clay sample to the peak area of a standard or reference kaolinite. This technique is used today to characterize and quantify kaolinite in soils. An interesting note is that the kaolinite standards used in this study were supplied to Joe by none other than Haydn Murray.

Joe's passion is teaching the next generation of soil and clay mineralogists. I had the fortunate opportunity to work under his guidance for my Ph.D. at Texas A&M University and believe me when I say I needed a bit of

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guidance. I first suggested to Dr. Dixon that I pursue experimental studies on the formation of dolomite as a dissertation research topic, but he kindly suggested that I conduct a survey of south Texas soils in search of zeolites. That suggestion led to many research and career opportunities for me, including my current position at NASA Johnson Space Center. Dr. Dixon has been the mentor for many graduate students who have gone on to outstanding careers in soil and clay mineralogy.

Joe's soil mineralogy class was sought after by soil scientists, oceanographers, geologists, soil engineers, and others pursing graduate degrees at Texas A&M. His highest priority has been the development of teaching tools that enhance the student's learning experience in soil and clay mineralogy. This priority prompted him to lead a charge to compile three books on soil mineralogy. The first volume, entitled *Minerals in Soil Environments*, 1st Edition edited by J.B. Dixon and S.B. Weed in 1977, was an outstanding graduate textbook in soil mineralogy. I had the opportunity to read the book from cover to cover in Dr. Dixon's soil mineralogy class. The success of the first edition prompted a 2nd edition of *Minerals in Soil Environments* in 1989. [A third soil mineralogy textbook with an environmental flavor was published by the Soil Science Society of America in 2002: *Soil Mineralogy with Environmental Applications* edited by J.B. Dixon and D.G. Schulze.]

Joe has been the recipient of numerous awards including Fellow of the American Association for the Advancement of Science in 1965, the American Society of Agronomy in 1978, and the Soil Science Society of America in 1978. He was awarded the 1979 Texas A&M University Faculty Distinguished Achievement Award in Research, and the 1988 Soil Science Society of America Research Award. [He also received the Texas A&M University Award in Excellence for Team Research in 1992 and a USDA Superior Service Group Award for Scientific Research in 1993.]

Although teaching is Joe's passion, he has served in several leadership roles for scientific societies. The most important role to all of us was Joe's leadership as President of The Clay Minerals Society in 1981–1982. I am amazed at the roles he has served for our Society, including Chairperson of the Administration and Policy Committee (1973–1975), Nominations Committee (1971–1973), Council Member (1974–1976), Associate Editor of *Clays and Clay Minerals* (1975–1977), Liaison to the International Society for the Study of Clays (AIPEA) (1983–1987), the Brindley Lecture Committee Chair (1986–1988), and the Research Grants Committee Chair (1989–1990). Joe is also active in other professional societies where he has served on the board of directors for both the American Society of Agronomy and the Soil Science Society of America. He chaired the Teaching Clay Mineralogy Committee of AIPEA and developed their quadrennial sessions on teaching clay mineralogy beginning in 1985.

Joe is a devoted family man. He and his wife, Martha, continue to live in College Station, but I guarantee you that they are planning their next trip to see their grandchildren. I consider myself an "academic son" of Dr. Dixon because of the guidance, wisdom, and friendship that he has provided to me in my professional growth. He is truly worthy of the distinctive honor of the Distinguished Member Award of The Clay Minerals Society.

Editor's Note: *Although Dr. Dixon retired in 2001, he remains an active member of the Texas A&M emeritus faculty and soil science profession. He continues to teach soil mineralogy at Texas A&M University and we continue to see an energetic Joe Dixon at the annual meetings of The Clay Minerals Society. His keen interest in extending soil mineralogy knowledge to other countries, especially to Mexico, has led to his teaching a special rotating course in soil science on a different university campus in Mexico for 11 years. He also advises students and presents lectures at the Autonomous University of Puebla, Mexico. Students from Mexico and other Central and South American countries have the opportunity to travel to the annual meetings of the Soil Science Society of America through the Joe B. and Martha J. Dixon Soil Mineralogy Endowment, established and administered by the Agronomic Science Foundation in honor of him and his wife. His research now focuses on the use of smectite clays as adsorbents of aflatoxin, which is a serious threat to animal and human health.*

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