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DISTINGUISHED MEMBER AWARD

The Distinguished Member Award of The Clay Minerals Society was made to Professor R. C. Reynolds, Jr. at the 26th annual meeting of The Clay Minerals Society in Sacramento, California, September 25, 1989. The following introduction was made on behalf of the recipient.

INTRODUCTION OF ROBERT C. REYNOLDS, JR.

DENNIS D. EBERL



Robert C. Reynolds, Jr., The Clay Mineral Society's newest distinguished member, received his baccalaureate from Lafayette College in 1951 and his doctorate from Washington University in 1955. Upon graduation, he worked for five years for what is now AMOCO Research in Tulsa, Oklahoma. In 1960, he joined the faculty of Dartmouth College, where he has been ever since. These distinguished credentials hide the fact that Reynolds is, at heart, a wild man. He hunts wild mushrooms, makes his own rifles, climbs mountains, and drives a Kawasaki 1000 cc motorcycle at 100 miles per hour through the New Hampshire night. Whatever Bob does, he does all the way, and this includes science.

Bob's best known scientific contribution is his complete one-dimensional model of X-ray powder diffraction patterns for mixed-layer clays. This computer program is very powerful because it is based on the physics of the diffraction process. The program was used first to study illite diagenesis in the Gulf Coast by Ed Perry and John Hower. Since their classic work, the number of studies that have used Reynold's approach has increased exponentially. A second contribution is his work on the inhibition of calcite precipitation by polyphenols. Bob wondered why calcite is not forming in Lake Powell, even though the water is supersaturated with respect to calcite. The answer is: pine needles. A third study that comes to mind is his work on alpine weathering in the Cascade Mountains. In beginning geology, we were taught that weathering in the mountains is almost entirely mechanical. To the contrary, Bob found that chemical weathering can be so intense in alpine regions that bauxites form. Usually we do not see the products of this weathering because the clays are eroded so quickly. Several of Bob's recent papers have been concerned with X-ray diffraction theory, including a restatement of the Lorentz polarization factor. These papers clearly demonstrate that we can no longer understand what Bob is talking about.

Bob Reynolds is one of the most interesting people that you will ever meet. Mr. President, it gives me great pleasure to present Dr. Robert C. Reynolds, Jr. as the 1989 Distinguished Member of The Clay Minerals Society.

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