B47 Dr. McCrone's Impact on Forensic Asbestos and Environmental Microscopy

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This presentation will briefly highlight Dr. McCrone's contributions to the recently emerging field of forensic environmental microscopy.

Few, if any, criminalists are not familiar with Dr. Walter C. McCrone's voluminous contributions to the field of forensic microscopy and the analyses of micro and ultra micro transfer (trace) evidence. Dr. McCrone was renowned for his life long efforts in promoting the application of the Polarized Light Microscope (PLM) to problem solving. His countless publications and presentations in diverse forums dealing with the detection, analysis, and characterization of small particles combined with his intuitive interpretation of the data, have made an unequaled contribution to the field of quantitative light microscopy.

It is therefore not surprising that Dr. McCrone would also apply his analytical and deductive skills employing the PLM to problems in environmental analysis. He is well known for his many publications dealing with the analysis of asbestos and asbestos like materials by PLM. His greatest impact in this field resulted from his tireless research and efforts in developing, refining and promulgating the focal plane staining method (better known to us as dispersion staining or DS) as a rapid, accurate method for the analysis of insulation samples for asbestos. Through McCrone Research Institute, Dr. McCrone can be said to have been responsible for the training of a large majority of microscopists who literally analyzed tens of millions of samples. These analyses were performed utilizing methodologies developed predominately by him and adopted by regulatory agencies in the United States and abroad. The methods he fostered are a major part of the arsenal of microscopical techniques employed by forensic environmental microscopists in their efforts to identify a manufacturer of an insulation product for the purpose of litigation. Less well known are the applications of the PLM to investigations involving civil and criminal violations of laws regulating the dumping of polluting materials.

Dr. McCrone was not adverse to adopting additional microscopical methods when sample condition or particulate size prevented the PLM providing a conclusive answer. He adopted, when necessary, phase contrast and analytical transmission electron microscopies along with morphological analysis for airborne asbestos and mold spore identification and quantification. His philosophy of presenting intense professional training courses stressing the practical applications of the PLM carried over to a series of courses offered to students requiring education in other areas of microscopical analysis.

Dr. McCrone, Microscopy, Asbestos

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