

SYMPOSIUM ON BULK SAMPLING

INTRODUCTION

BY B. H. LLOYD¹

Over the past few years there has been increasing evidence, some of it within the confines of ASTM, of a lack of objective thinking in the design of sampling schemes for bulk materials. To some extent this apparent lack of care is forgivable because those persons in many cases faced with the task of preparing sampling procedures have not acquired the kind of scientific knowledge to perform this duty properly. Secondly, the complex nature of some bulk materials has impeded the development of scientific sampling. These unfortunate circumstances have not restrained such groups as ASTM Committee E-11 on Quality Control of Materials from devoting time to the major task of guiding the statistician to the problems that he is best fitted to solve. Conversely, Committee E-11 will continue to bring to the attention of sampling designers proven scientific methods that will enable them to achieve desired accuracy and precision at a lower cost than will the conventional but nevertheless more arbitrary methods.

With these thoughts in mind Committee E-11, supported by the Chemical Division of the American Society for Quality Control, unanimously agreed to conduct a symposium to be held in conjunction with the 1958 Annual Meeting of the Society. The broad plan of the symposium was to cover a few of the

basic problems encountered in bulk sampling being careful not to identify the general problem under discussion with any particular physical substance that would be of interest to only a very limited group in attendance at the meeting. This approach was only partly successful. The paper by A. J. Duncan, "Some Measurement Error Considerations in Bulk Sampling," is typical of the original intention of the symposium committee to have the general problem of error discussed, with reference to a specific substance, in this case mineral fertilizers, only by way of demonstration. The paper by R. S. Bingham, Jr., J. L. Gioele, and V. B. Shelburne, "Studies in Ore Car and Abrasive Grain Sampling Variation," was invited to demonstrate one approach to the various problems that must be faced in sampling a particular class of bulk material. The two papers, "A Physical Interpretation of Coal Sampling Variances with Application to Sample Reduction" by B. H. Landry and "Influence on Increment Weight" by W. M. Bertholf are directed mainly at problems related to the sampling of coal and similar materials. The efforts of coal research scientists to direct their attention to sampling problems in recent years is a commendable example to others faced with bulk sampling problems. It is to be hoped that many other groups will take more vigorous action in this direction in time to come.

¹ Price Waterhouse and Co., Montreal, Que., Canada.