



Technical Article

## **Determination of Sample Size for Estimation of the Mean Grade**

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Particular guidelines for the accurate assessment of the requisite sample size for the mean grade of a quantity or volume of mineralized bulk material are presented, and an illustrative numerical example is given.

In mineral processing, sampling of bulk material plays an exceptionally important role. It provides the necessary estimates of the material properties before and after processing. Statistical theory dealing with the properties of the arithmetic mean of samples as an estimator of the unknown population mean is well developed especially for normally distributed random variables. In the following we shall discuss some elementary statistical relationships and their use in determining the minimum required sample size in sampling of bulk materials with detailed numerical examples.