sampling error

That part of the total error (the estimate from a sample minus the population value) associated with using only a fraction of the population and extrapolating to the whole, as distinct from analytical or test error. It arises from a lack of homogeneity in the parent population. In chemical analysis, the final test result reflects the value only as it exists in the test portion. It is usually assumed that no sampling error is introduced in preparing the test sample from the laboratory sample. Therefore, the sampling error is usually associated exclusively with the variability of the laboratory sample. Sampling error is determined by replication of the laboratory samples and their multiple analyses. Since sampling error is always associated with analytical error, it must be isolated by the statistical procedure of analysis of variance.

Source:
PAC, 1990, *62*, 1193 *(Nomenclature for sampling in analytical chemistry (Recommendations 1990))* on page 1201