

Understanding the Uncertainty Associated with Analytical Results: Sources, Control and Interpretation of Results

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Are you making important decisions based on the interpretation of analytical results? Do you think that quality control is only a laboratory concern and that the accreditation of a laboratory by a certified organization guarantees the accuracy of analytical results? How do you know if a result is acceptable?

This conference will highlight the sources of uncertainties associated with analytical results and the importance of quality control. Financial decisions are often made based on the interpretation of analytical results, thus magnifying the importance of these data.

In general, the interpretation of analytical results is limited to comparison to regulatory criteria. Furthermore, the interpretation of quality control data usually included in laboratory reports as performed by project managers is limited to confirming that these results meet laboratory quality control standards. Most of the time, project managers do not take into account data uncertainty when interpreting results and making recommendations.

The uncertainty associated with analytical results is not only attributable to laboratory procedures but may also be linked to sampling procedures, conservation of samples, pre-treatments, etc. In fact, many factors related to both sampling and laboratory procedures can have a direct impact and effect on accuracy and precision of analytical results.

A better knowledge and understanding of the uncertainty associated with analytical results leads to a better interpretation of quality control data by project managers which in turn impacts decision making capabilities. The project manager must also consider the environmental history of a site, potential sources of contamination and expected contamination levels when evaluating uncertainty and interpreting results. Overall, the objective of this conference is to demonstrate the importance of the project manager's responsibility and complexities involved in determining the acceptability of analytical results.

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