THE ROLE OF STANDARDS AUSTRALIA IN ACHIEVING AND MAINTAINING ACCURACY AND PRECISION IN LITHIUM BORATE FUSION – XRF SPECTROMETRIC ANALYSIS.

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The analytical procedure, lithium borate fusion X-ray fluorescence spectrometry has become a powerful tool for the minerals industry in maintaining product quality. Australia is one of the leading forces in producing standard procedures for industry. These standards are driven by the need of industry. Both sellers and buyers of raw materials and final product need to come to some agreement on quality through standardised analytical procedures.

The process of putting together a standard procedure takes many person hours of work by experts in the field – these people come from industry and research organisation, such as the CSIRO and the university sector.

The role of Standards Australia in achieving and maintaining accuracy and precision in lithium borate fusion – XRF spectrometric analysis is significant. The changes over the last ten years have seen these standard procedures become less complex and more flexible.

This presentation investigates these changes and the role of standard procedures in this accurate, precise, easy to apply, quick and clean analytical method for multi-element analysis. It highlights how a relatively simple method can lead laboratory personnel into simple systematic errors, which cause analytical problems.

Major variables on the fusion side that cause analytical problems are discussed. These include – fusion fluxes, platinum alloy labware and care and maintenance there of, fusion machines, fusion procedures, fusion additives, automation and robotics. Sampling and sample preparation and occupational health and safety are also mentioned.