

## Standard Guide for Reporting of Forensic Primer Gunshot Residue (pGSR) Analysis by Scanning Electron Microscopy/Energy Dispersive X-Ray Spectrometry (SEM/EDS)



### WHAT IS AN AAFS STANDARD FACTSHEET?

The AAFS produces clear, concise, and easy-to-understand factsheets to summarize the contents of technical and professional forensic science standards on the OSAC Registry. They are not intended to provide an interpretation for any portion of a published standard.

### WHAT IS THE PURPOSE OF THIS STANDARD?

This standard guide describes recommendations and requirements for reporting scientific results and opinions in primer gunshot residue analysis by scanning electron microscopy with energy dispersive x-ray spectrometry (SEM-EDS).

Recommendations on data reporting, reporting of interpretations and limitations of the analysis, and additional primer gunshot residue-specific reporting considerations that conform with other established reporting standards are included.

This standard contains numerous report wording examples that support an unambiguous understanding of the recommendations contained in the standard.

### WHY IS THIS STANDARD IMPORTANT? WHAT ARE ITS BENEFITS?

By adhering to this standard, forensic science service providers (FSSPs) performing primer gunshot residue analysis can be confident they are reporting their results in a manner consistent with the relevant scientific community and in line with general forensic reporting standards.

The recommendations and requirements outlined in this standard help to prevent misunderstanding of the results and their interpretation while also increasing the lay reader's understanding of primer gunshot residue.



### HOW IS THIS STANDARD USED, AND WHAT ARE THE KEY ELEMENTS?

This standard guide should be used when creating wording for reporting results and interpretations of primer gunshot residue analysis.

This guide sets minimum requirements for reporting primer gunshot residue results and interpretations. It addresses the reporting of all aspects of the primer gunshot residue analysis, including testing methodology, relevant definitions, particle number, particle class or elemental composition, considerations for interpretation, and adherence with other relevant standards.

All sections of the standard include multiple report wording examples that supports incorporation into a FSSP's procedures. Additionally, this standard includes an appendix with full report examples that incorporate all of the recommendations and requirements in the standard.

This standard sets out requirements for FSSPs using thresholds when reporting their interpretation of primer gunshot residue, which include the ability to provide background study and data interpretation information to support the threshold chosen.

The standard does not prohibit the inclusion of additional information as may be required by a specific FSSP.