

Abstract

Prompt Gamma Neutron Activation Analysis (PGAA or PGNAA) is a non-destructive essential analysis system potentially applicable for the non-invasive dimension of wall-bound mercury (Hg) deposited at trace situations on the process bath face of sword pipe and vessels in oil painting and gas product and processing. Total wall-bound mercury, on 17 mercury-impacted sword pasteboard samples was measured by two non-destructive styles PGAA and XRF (X-ray luminescence spectroscopy). Following then on-destructive dimension styles, the samples were GLJHVWHG DQG DQDWRPLJHG E\ DQ LQ QLWHVLPDO OXPLQHVHFHQFH 6 SHFWURVFRS 1631 system (Acid Digest- AFS), generally considered state of the art for accurate mercury in sword measures. 3 * \$\$ DQG ; 5) UHVXOWV ZHUH FRPSDUHG WR WKRVH IURP WKH PRGLHG HG (3\$ V\ V indicated that the PGAA measures displayed a trend fairly like that of the acid condensation- AFS system measures. 'LPHQVLRQ GHOLFDF\ DV GHWHUPLQHG E\ FRPSDULVRQ WR D 3VWDQG DUG V\ V WHP for quantitative dimension [1]. Still, the thickness in the shadowing of the PGAA results with results from the "standard system" along with derivate of a tone-attenuation correction factor suggests the eventuality for bettered delicacy and correlation. Details of the inter-comparison are handed herein.

Keywords: Prompt Gamma Activation Analysis (PGAA); X-ray luminescence (XRF); Wall bound mercury; Mercury de led sword

Introduction

range of gamma energy situations (gamma lines). Still, the analysis in