Press Release

Analysis of Copper Concentrate with New Benchtop Rigaku Supermini200 WDXRF

The Woodlands, TX – September 27, 2012. Rigaku Corporation is pleased to announce the publication of a new application report on the new Rigaku Supermini200, the world's only benchtop WDXRF spectrometer and the latest in a series of revolutionary compact WDXRF systems from Rigaku. Application Note #5041 describes the analysis of copper ore concentrate, with complete information about sample preparation, method calibration and repeatability.

Analysis of copper sulfide ore, a major source of copper, and other Cu concentrates can reveal the presence of not only harmful elements, such as arsenic, but also elements more valuable than copper, including silver or gold. As the quality of Cu ore deposits has decreased, the demand for reliable analysis has increased. The value of this information demonstrates the need for rapid, precise analysis close to the process. For these reasons, wavelength-dispersive X-ray fluorescence spectrometry (WDXRF) is a popular analytical technique in the mining industry. The Supermini200 features the precision and resolution of the WDXRF technique – essential for light elements and for resolving potential overlaps of multiple heavy elements – in a low-cost, low-maintenance benchtop package that offers copper producers a convenient, on-site alternative to large, high-power WDXRF laboratory spectrometers.

For the described method, fifteen copper concentrate samples were used as references for calibration and were prepared using the pressed powder technique. Calibration was performed for Cu, Zn, Pb, Bi, Ag, As and Cd using the Supermini200 with a Pd-target X-ray tube. To test the precision for Cu concentrate analysis, ten measurements were performed. The calibration accuracy obtained in the report shows performance and repeatability precise enough for daily analysis use.

The results show how, with these application techniques, a benchtop spectrometer can be a powerful tool for ore and concentrate analysis for both process control and screening. A copy of this report may be requested at: http://www.rigaku.com/products/xrf/supermini/app5041.

About Rigaku

Since its inception in Japan in 1951, Rigaku has been at the forefront of analytical and industrial instrumentation technology. Rigaku and its subsidiaries form a global group focused on general-purpose analytical instrumentation and the life sciences. With hundreds of major innovations to their credit, Rigaku companies are world leaders in X-ray spectrometry, diffraction, and optics, as well as small molecule and protein crystallography and semiconductor metrology. Today, Rigaku employs over 1,100 people in the manufacturing and support of its analytical equipment, which is used in more than 70 countries around the world supporting research, development, and quality assurance activities. Throughout the world, Rigaku continuously promotes partnerships, dialog, and innovation within the global scientific and industrial communities.

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