

Press Release

EDXRF for Elemental Analysis in Gold Processing

Austin, TX – April 11, 2013. Applied Rigaku Technologies, Inc. today announced a new method for the quantification of the gold (Au) content in stripping solution by energy dispersive X-ray fluorescence (EDXRF).

Cyanide is commonly used to recover gold from gold-bearing ores. Rigaku Application Note # 1299 describes the analysis of gold during stripping, including complete information regarding sample preparation, method calibration and repeatability, and demonstrates the performance of the [Rigaku NEX QC+ EDXRF analyzer](#).

Various ores, tailings and slags can be processed to recover trace gold content by grinding ore to a fine powder and rendering the material as slurry. Accurate measurement of the gold content during stripping using gold cyanidation or other liquid processing is critical for optimum control of the extraction process.

The new application report details a fast and simple analysis technique designed to add significant value by allowing more frequent measurements to be made by operators with varied experience levels.

To demonstrate the method, measurements were performed using the new NEX QC+ EDXRF analyzer. Its compact, rugged design features a touchscreen interface, enabling better control of the extraction process. The NEX QC+ analyzer is designed to deliver heightened sensitivity and lower detection limits by utilizing direct excitation with proprietary filters.

For the analysis detailed in this report, each sample was prepared by transferring 6 g of solution into a standard 32 mm XRF measurement cell followed by measurement with the NEX QC+ analyzer. A simple linear empirical calibration was built using a suite of 4 calibration standards. All samples were analyzed in air utilizing a single measurement condition for a total analysis time of 100 seconds per sample. The analysis did not require a purge gas such as helium. Instrument repeatability was determined by ten repeat analyses of a representative sample in static position using a 100-second measurement time per analysis.

The results detailed in the report show outstanding performance by the NEX QC+ analyzer for measuring gold content in aqueous solutions during the processing of gold from ores, tailings or slags.

A copy of this application report may be requested on Rigaku's official website.
http://www.rigakuedxf.com/edxf/app-notes.html?id=1299_AppNote

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 life sciences and general purpose analytical instrumentation. With hundreds of major innovations to its credit, Rigaku and its subsidiary companies are world leaders in the fields of small molecule and protein crystallography, X-ray spectrometry and diffraction, X-ray optics, as well as semiconductor metrology. Rigaku employs over 1,100 people globally and its products are in use in more than 70 countries – supporting research, development, production control and quality assurance activities. Throughout the world, Rigaku continuously promotes partnerships, dialog, and innovation within the global scientific and industrial community.

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