Press Release

Rigaku Publishes Method for Analysis of Iron Concentrates

Austin, TX— April 22, 2015. Applied Rigaku Technologies, Inc. has published a new application report detailing the measurement of iron, silicon dioxide and sulfur in magnetite ore concentrate.

Iron ores are unrefined rocks or minerals from which metallic iron can be derived. In preparation for smelting, ore is ground, cleaned, separated and concentrated. One of the key economic parameters that must be considered for magnetite, an essential ore of iron, is the contaminant elements that exist within the magnetite concentrate. Impurities such as silicon dioxide and sulfur can compromise the quality of the beneficiation, concentrating and smelting processes, and adversely affect the final properties of the iron or steel produced.

Rigaku Application Note #1480 describes a method using energy dispersive X-ray fluorescence (EDXRF) for the measurement of iron, silicon dioxide and sulfur in magnetite ore concentrate, and includes information about sample preparation, calibration and repeatability. The method demonstrates the capabilities of the Rigaku NEX QC+ high-resolution benchtop EDXRF analyzer for monitoring elemental composition of ores and concentrates.

For the analysis detailed in the report, 21 standards were used to build an empirical calibration. Samples were prepared as hydraulically pressed pellets.

To demonstrate repeatability, selected samples were each measured in 10 repeat analyses using an analysis time of 300 sec per sample.

Analysis was performed with the NEX QC+ spectrometer, designed to provide high precision and broad elemental coverage.

***The Rigaku NEX QC+ high resolution benchtop EDXRF* analyzer**

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The results indicate that Rigaku NEX QC+ analyzer delivers a fast and reliable means of monitoring elemental composition of ores and concentrates and can be used for quality checks throughout the entire smelting process.

A copy of this report may be requested at:
http://www.rigakuedxrf.com/edxrf/app-notes.html?id=1480_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 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, X-ray diffraction, non-destructive testing, X-ray microscopy, Raman spectroscopy and optics, as well as small molecule and protein crystallography and semiconductor metrology. Today, Rigaku employs over 1,100 people in the manufacturing, sales and support of its analytical equipment, which is used in more than 70 countries around the world for research, development, and quality assurance activities. Throughout the world, Rigaku continuously promotes partnerships, dialog, and innovation within the global scientific and industrial communities. Information about Rigaku is available at www.rigaku.com.

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