

## Press Release

### Rigaku NEX QC Application Note: EDXRF Analysis of Sulfur in Coal

**Austin, TX— July 5, 2012.** Applied Rigaku Technologies, Inc. is pleased to publish a new application report which details the analysis of sulfur in coal using the [Rigaku NEX QC EDXRF](#) analyzer. Rigaku Application Note #1231 demonstrates the capability of energy dispersive X-ray fluorescence spectrometry (EDXRF) for cost effective measurement of sulfur in coal.

Sulfur is a leading element of interest in coal analysis. Coal contains varying amounts of sulfur, based in part on how much sulfur and iron combined in the peat as it is formed into coal and the wetness of the climate during the formation. In the burning of coal, higher sulfur content causes more rapid corrosion of metal equipment, while sulfur is also an environmental pollutant as it burns. The measurement of the sulfur content in coal is therefore essential for the assessing the character and value of the coal. From mining to industrial use, a rapid, simple means of monitoring sulfur levels in coal is critical.

The new method applies to the determination of total sulfur in coal as well as the other major elements which are measured for their effect on the sulfur reading. Pyrite ( $\text{Fe}_2\text{S}$ ) is a major mineral found in most coal. In the case of measuring two or more distinct coal types, for example sulfur bearing coal that is not primarily pyrite and a coal that is mainly pyrite, optimum accuracy can be achieved by building separate calibrations for each distinct coal type.

This analysis is accomplished by use of a simple and versatile benchtop EDXRF analyzer. The performance described demonstrates the ability of the NEX QC analyzer to yield excellent results for the analysis of sulfur in coal, without the need for helium purge. The measurement of other present elements to compensate for their effects on the sulfur reading shows the flexibility of the NEX QC for multi-element analysis.

A copy of this report may be requested at:  
[http://www.rigakuedxrf.com/edxrf/app-notes.html?id=1231\\_AppNote](http://www.rigakuedxrf.com/edxrf/app-notes.html?id=1231_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, and 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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