

## Press Release

# Rigaku NEX CG EDXRF: Analysis of Coal by FP Method

**Austin, TX – February 8, 2012.** Applied Rigaku Technologies, Inc. today announced a new method for the analysis of coal, with specific emphasis on the measurement of sodium oxide (Na<sub>2</sub>O), using the Fundamental Parameters (FP) approach with a Matching Library. Application Note #1099 demonstrates the effectiveness of the Rigaku NEX CG energy dispersive X-ray fluorescence (EDXRF) spectrometer using the Rigaku RPF-SQX fundamental parameters method for the elemental analysis of coal.

During the mining, processing and burning of coal, process monitoring and control are vital to the efficiency and quality of the final product. Specific attention is often given to the sodium content (Na O). High sodium content can combine with sulfur or aluminum and silicon to form compounds which can lead to fouling of the cyclone separator or heat exchange surfaces.

To meet the challenge of analyzing low sodium coals, the NEX CG EDXRF analyzer utilizes secondary excitation and polarization to provide unmatched sensitivity, with best-in-class detection limits for the light elements.

Use of RPF-SQX analytical software enables excellent quantitative analysis as any remaining background is modeled and subtracted from the calculations. The intuitive software and Rigaku FP templates make it easy for an operator to additionally refine the matrix models and further improve FP accuracy by creating a Matching Library, which allows the operator to measure and register one or more known samples as examples of the actual coal matrix.

The Rigaku NEX CG using the RPF-SQX fundamental parameters method, coupled with a simple 3-sample Matching Library, yields excellent performance for the elemental analysis of coal. The use of RPF-SQX reduces or eliminates the need for large suites of calibration standards. Rigaku's approach to FP melds together automatic peak deconvolution with advanced matrix modeling to deliver a simple and powerful state-of-the art system for the analysis and quality control of coal.

A copy of this report may be requested at:

<http://www.rigakuedxrf.com/edxrf/app-notes.html?id=1099> 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, Raman spectroscopy, 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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