

Press Release

Rigaku Publishes Method for Analysis of Oxides in Phosphate Rock

Austin, TX— October 24, 2016. [Applied Rigaku Technologies, Inc.](http://www.rigakuedxrf.com) has published a new application report describing the measurement of oxides in phosphate rock. Information about sample preparation, calibration and repeatability is included in the report.

Rigaku Application Note #1587 describes a method employing energy dispersive X-ray fluorescence (EDXRF) for the measurement of phosphorus pentoxide (P₂O₅) and magnesium oxide (MgO), as well as other major oxides in phosphate rock.

Phosphate rock is mined from high phosphorous clay deposits and processed to be used in fertilizers. During mining and processing, levels of P₂O₅ and MgO, as well as other major oxides, are monitored to ensure proper product quality is achieved and the desired physical and chemical properties are maintained.

For the analysis described in the report, the sample was ground to a homogeneous powder, approximately 200 mesh, from which a 6 g hydraulically pressed pellet was produced. An empirical calibration was built using a set of seven commercially available standards. Each sample was measured in static position for ten repeat analyses using a total analysis time of 400 sec per measurement.

The analysis was performed using the [Rigaku NEX QC+](http://www.rigakuedxrf.com) high-resolution benchtop EDXRF spectrometer. Designed for demanding QC/QA applications, or for situations where analysis time or sample throughput is critical, the NEX QC+ spectrometer employs next generation silicon detector technology and features a 50 kV X-ray tube for wide elemental coverage. The self-contained unit with touch screen operation is ideally suited for at-line quality checks or the QA/QC lab.

The performance shown in the report demonstrates that the NEX QC+ analyzer provides excellent sensitivity and performance for the measurement of P₂O₅, MgO and other major oxides in phosphate rock.

A copy of this report may be requested at
<http://www.rigakuedxrf.com/edxrf/app-notes.html?id=1587> 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 1,400 people globally and its products are in use in more than 90 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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The Rigaku NEX QC+ high-resolution benchtop EDXRF analyzer