

Portable X-Ray Diffraction



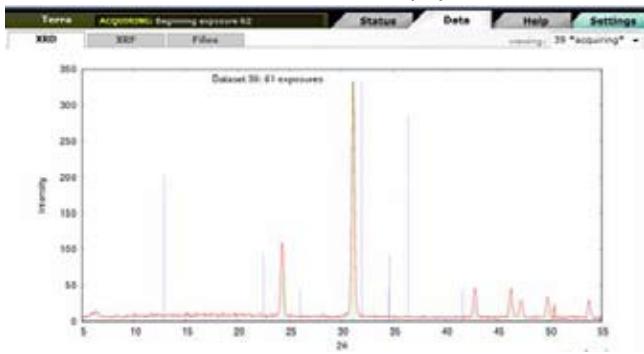
Terra:

The First Truly Portable XRD System

The Innov-X Terra is the first truly portable XRD system designed specifically for rock and mineral analysis. Now "field work" can really be done in the field. Terra can be configured with everything you need to acquire and analyze diffraction data in a rugged compact case. With our patented sample handling system, not only is sample preparation time minimized, but accuracy in peak identification previously only available using laboratory based systems can be achieved.



Terra XRD two-theta display

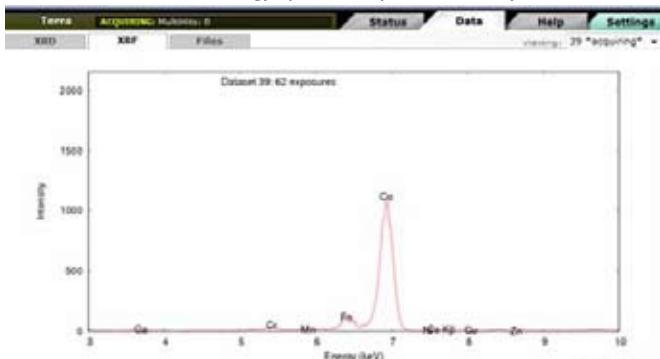


Terra operates off software embedded in the unit itself. The user accesses the operating system through a wireless connection (802.11 b/g). This unique method of operation allows for a wide degree of flexibility in controlling the instrument and subsequent data handling.

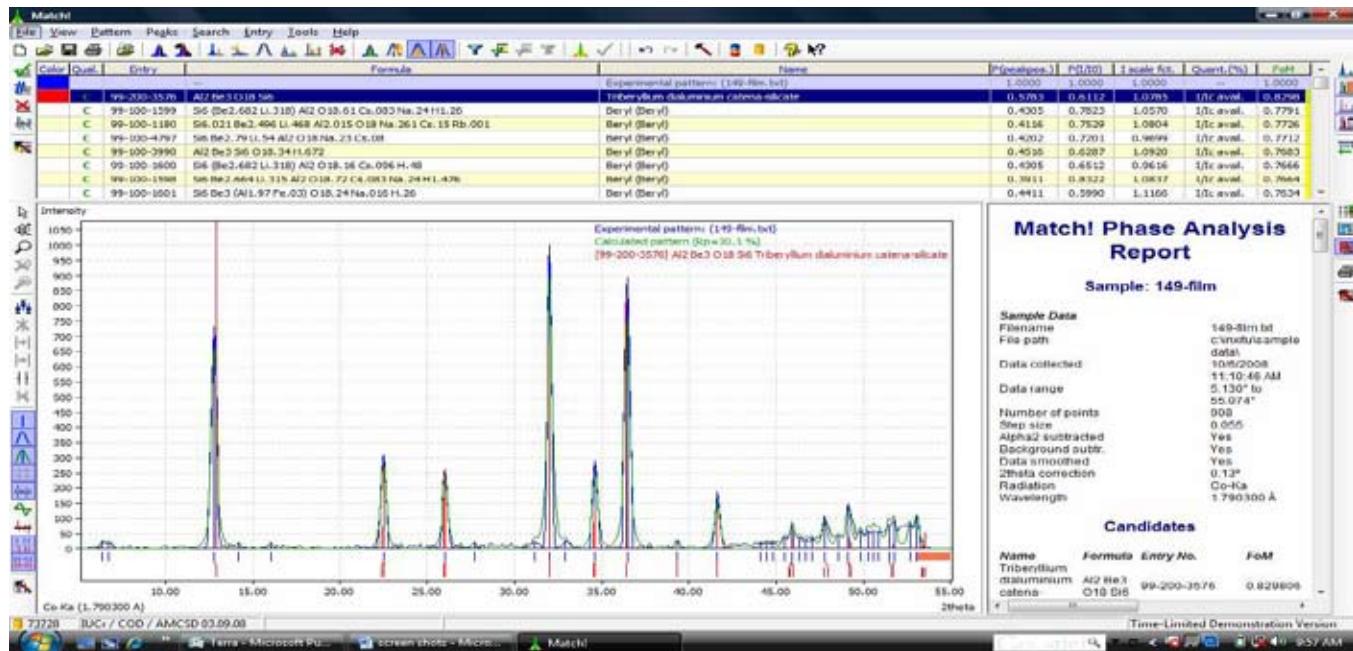


XRD is the technique of choice for accurate identification of minerals. XRD data from Terra can be readily analyzed using the software of a laboratory XRD instrument, or third party applications like Jade (MDI), XPowder, Match! (Crystal Impact), CrystalSleuth (Univ. of Arizona), etc. Identification of phases also requires the use of a library such as the ICDD Powder Diffraction Files or the American Mineralogist Crystal Structure Databases.

Terra XRF energy spectrum (qualitative analysis)



PRODUCT DATA



Available phase identification pattern matching software provides a complete analysis using either publicly available diffraction pattern databases or common commercially available databases, such as PDF2/PDF4.

Basic Specifications

Weight: 14.5 kg with 4 batteries

Size: 48.5 x 39.2 x 19.2 cm / 19.1 x 15.4 x 7.6 in

XRD Resolution: 0.25° 2θ FWHM

XRD Range: 5-55° 2θ

Detector Type: 1024 x 256 pixels; 2D Peltier-cooled CCD

XRF Energy Resolution: 230 eV (at 5.9 keV)

XRF Energy Range: 3-25 keV

Sample Grain Size: <150µ crushed minerals (100 mesh screen, 150 um)

Sample Quantity: > 15mg; smaller sample holder available on special order

X-Ray Target Material: Cobalt (others available on request)

X-Ray Tube Voltage: 30kV

X-Ray Tube Wattage: 10W

Field Autonomy: ~4 hours (can be expanded by hot swapping batteries)

Power Consumption: 85-90W during analysis

Data Storage: 40Gb; Ruggedized internal hard drive

Wireless Connectivity: 802.11 b/g for remote control from web browser

Operating Temperature: -20° to 35°C

Enclosure: IP67, MIL C-4150J ; rugged case

Specifications subject to change without notice.

