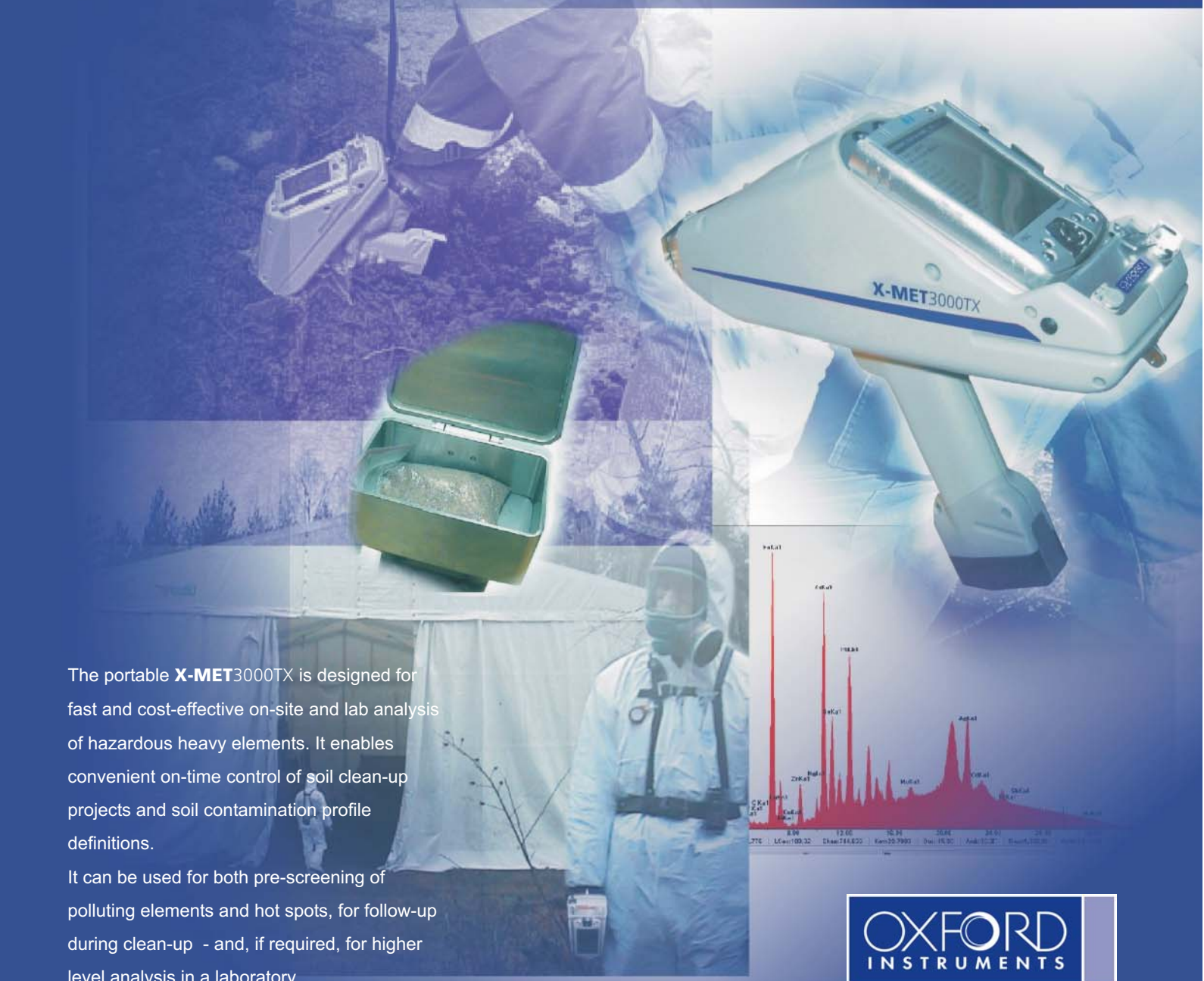
X-MET3000TX

A fast, lightweight, XRF analyzer
for screening hazardous
heavy metals in soil

ENVI



The portable **X-MET**3000TX is designed for fast and cost-effective on-site and lab analysis of hazardous heavy elements. It enables convenient on-time control of soil clean-up projects and soil contamination profile definitions.

It can be used for both pre-screening of polluting elements and hot spots, for follow-up during clean-up - and, if required, for higher level analysis in a laboratory.

OXFORD INSTRUMENTS

Reliable multi-element analyzer for both pre-screening and remediation projects of contaminated soil

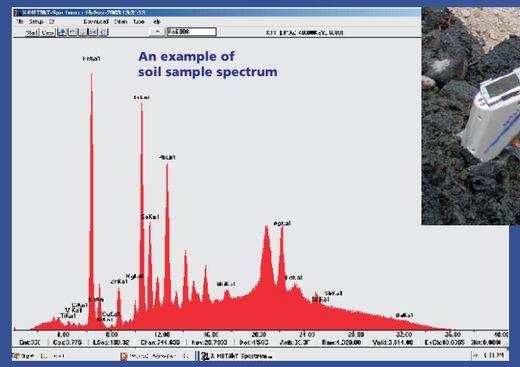
Qualitative and quantitative analysis of polluting elements

The **X-MET**3000TX is a fast, reliable, battery operated analyzer to use in all phases of soli clean-up projects from identifying pollutants to analysis of their concentrations.

Preliminary analysis of the unknown sample with the X-MET3000TX at the very beginning of the clean-up process means remarkable cost savings.
X-MET3000TX is also able to make qualitative analysis. The sample spectrum obtained with the analyzer helps to focus further analysis work on only those elements present in the contaminated soil.

The hot spots on contaminated soils are easy to find

- All required heavy elements in soil are detected simultaneously. In the field, the direct surface measurement can be done without any major sample preparation. Measurement can be done from the sample in a plastic bag or in a sample cup in the field lab. More accurate results are obtained if the sample is dried, sieved, ground, and possibly pressed as brickets.
- Typically one measurement takes 15 to 300 seconds depending on the elements of interest and level of performance required.
- Measurement itself is easy - just point the probe at the sample (field measurement) or place the sample bag in the holder (field lab measurements), pull the trigger and read the result.
- The results are immediately available and can be stored in the computer memory for further processing.
  The data can be easily transferred to a PC (CF to PC adapter), Microsoft ActiveSync over the USB cable supplied or wirelessly using the built-in Bluetooth capability.



Unlimited sample types

In addition to soil measurements the analyzer can be calibrated to measure solids, liquids, metals, filter papers, coatings etc. Element concentration range can be from ppm levels to 100 %.

The **X-MET**3000TX can be used for metal applications just by changing a software Flash card memory.

Calibrations

Where maximum accuracy is required, the empirical method is used, for example when measuring low concentrations.

The instrument comes factory calibrated for the most important contaminates. Calibration includes Compton scattering intensity to correct for the changing matrices between samples.

In addition, the instrument is easy to calibrate using site-specific samples, in order to provide the most accurate results available.

The most important analytes in a soil analysis are normally Pb, As, Cr, Cu, Zn, Ni, Cd, Co, Se, Mo, Hg and Sb.

Accessories

- Using the field carrying case and a shoulder strap provided with the instrument, it is easy to carry to the most severe locations.
- A plastic PDA cover is available for humid conditions.
- Direct measurements from the soil surface are done on a special background plate.
- When used as a table-top analyzer, it can be equipped with a special sample bag holder or sample cup adapter.
- These special accessories function as a radiation shield, standardizing the background radiation

- **No isotopes**
- **No resourcing costs**
- **No travel restrictions** *

Miniature X-ray tube technology minimizes licencing procedures and costs.

An X-ray tube instrument generates no radiation unless power is applied to the X-ray tube. Unlike instruments with radio-active isotope sources, there are no special regulatory requirements regarding the transportation and storage of the instrument. It can be carried on airplanes as carry-on baggage.

Training

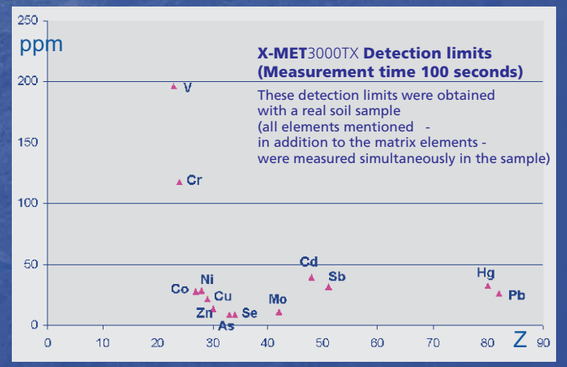
Thanks to a simple, easy "Point and Shoot" operation and a brief training session, it is possible to have the maximum number of **X-MET**3000TX operators at your service in the shortest possible time.

5-year X-ray tube warranty

The heart of the **X-MET**3000T is a proprietary X-ray tube. This proven tube technology has an excellent service history which allows us to offer a five year warranty on the X-ray tube.
No one in the industry provides a longer warranty.

In the lab:
Sample can be measured in a plastic bag using a special sample bag holder or sample cup adapter (options).

X-MET3000TX Detection limits



The detection limits shown are based on a factory calibration using 100 sec measurement time. Limits are calculated as follows:

$$\text{Det lim} = \frac{3}{M} \times \sqrt{\frac{B}{T}}$$

M = slope of the calibration curve
B = background count rates from the blank
T = measurement time

Success through accuracy
High quality analysis systems.

High quality commercial PDA as user interface

PDA

- The user interface includes excellent color touch screen display and easy-to-use menu, enabling effortless operation.
- TFT* display is easy to read in all lighting conditions.
- Windows CE based operating system.
- PDA** incorporates numerous utility programs (eg. Calendar, calculator, voice recognition) using the well-known Windows environment.
- PDA standard software enables full PC compatibility to process the measurement result in any way the user wants.
  All user results and spectra from an unlimited number of samples can be stored on internal FLASH card in the PDA.
- The data can be easily transferred to a PC (CF to PC adapter), using Microsoft ActiveSync over the USB cable supplied, or wirelessly using the built-in Bluetooth capability. Once the data is on the PC, standard programs such as Microsoft Excel and Access can be used to store and process the data and to generate custom reports.

X-MET3000TX Technical Specifications

Analysis range:	- From Ti to U
Display:	- 320 x 240, 65536 colors
Memory:	- 32 MB + 32 MB Flash
Detector:	- High-resolution Peltier cooled Si-PIN
Batteries:	- Inside the handle. Two Li-ion - 4 hours operation each
Battery charger:	- 240/110V - 50-60Hz
X-ray tube:	- Max voltage 40kV - Ag target
User Interface:	- PDA/Windows CE OS
Data transfer:	- USB - download cables supplied, Bluetooth, IR
Data storage:	- 32 MB Flash card memory
Operating conditions:	-Temperature range -10°C to +50°C; 14°F-120°F
Safety features:	- Infrared beam safety sensor at the nose of the instrument - Dual failsafe red warning light when X-ray is on - Failsafe yellow warning light when high voltage generator is on - Safety shield for small sample, sample cup and plastic sample bag measurements
Dimensions:	- 9.9 cm (W) x 28.3 cm (L) x 27.8 cm (H)
Weight:	- 1.8 kg

Bench top operation:
- Benchtop instrument stand kit
- PDA cradle
- PDA AC adapter
- Remote extension cable
- PDA display shield

Accessories:
- Shoulder strap
- Standard shipping case
- Background plate for surface measurements

Optional accessories:
- Compact shipping case
- Sample cup holder
- Sample bag holder
- Safety shield for small samples
- Calibration software

(* TFT=Thin Film Transistor, ** PDA = Personal Digital Assistant)

CERTIFICATE NUMBER FM29142

Part no: OIA/106/A/0904

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