

Portable XRF Solutions for Environmental Stewardship



- Fast, non-destructive screening
- Solids, powders, slurries and liquids
- Real-time decision making data
- Minimizes cost and time of lab analysis
- USB, Bluetooth & Wi-Fi connectivity
- Interactive touchscreen operation
- Battery or AC powered
- Light weight and ready to go



● Environmental Stewardship

Portable XRF has been used to monitor heavy metals in soil for many years now. US EPA Method 6200-05, EN15309-07, and ISO 13196:2013 guide screening of soil, waste and sludge with pXRF.

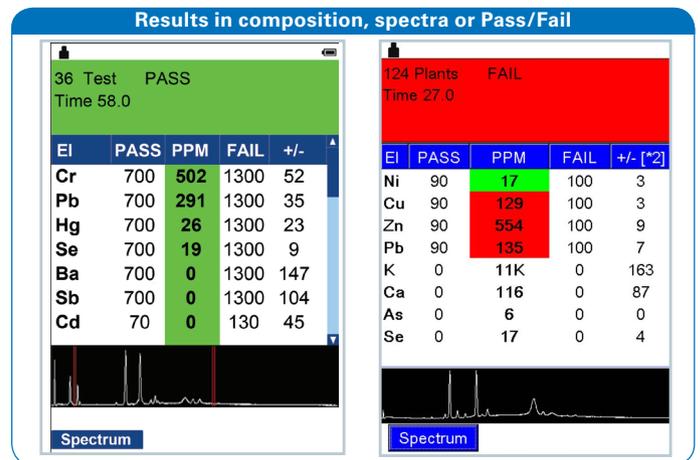
Nondestructive pXRF provides immediate results for remediation action and helps quickly define samples which may need lab analysis for regulatory directed final clearance. Use of pXRF is referred to as “smart sampling” because it can quickly measure so many truly representative samples and minimize the cost and time of those requiring lab ICP/AA analysis.

GPS integration for geospatial mapping and smart XRF sampling of large areas



Dust Wipes and Filters

- Measure surface dust wipes, paint chips and flakes for industrial hygiene
- Analyze airborne metals collected on filters during welding, construction, mining, manufacturing and paint removal
- Comply with NIOSH 7702, OSHA OSSH1/OSA1



Screen the Environment for Safety:

- Screen soil and water for high levels of toxic metals, especially in urban gardens, developing, poor and rural areas
- Screen construction and general industry sites before, during and after demolition to help meet safety regulations
- Screen perimeters and runoff streams and use for reclamation after energy resource exploration, extraction and processing
- Monitor industrial perimeters and suspected hotspots for high levels of dangerous metals
- Confirm remediation efforts at HAZMAT sites and after extreme weather debris migration
- Follow “Rule of 20” to save costs on TCLP of RCRA metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag)

Handheld XRF (HHXRF) is ideal for screening soils



- **Portable XRF Elemental Analyzers:** Simultaneously measure elements from sodium (Na) to uranium (U) at concentrations as low as parts-per-million to high percentage levels (depending on the element). Objects of any form – liquid, solid, cores, powder, sludge, slurries, filters, wipes, chips – can be analyzed wherever they are located.

Bruker's two handheld XRF spectrometers, the TRACER 5 and the S1 TITAN

are for qualitative and semi-quantitative elemental analysis. They also perform quantitative analysis when utilizing calibrations with like-sample standard reference materials such as heavy metals and other dangerous elements. Results can be given as Pass/Fail/Inconclusive with provided threshold values. They can be configured in desk or bench top stands for laboratory like analysis with a PC.

S1 TITAN Handheld XRF analyzer (Mg to U)



TRACER 5 Handheld XRF analyzer (Na to U)



Bruker's portable Counter Top XRF

is configured for measuring elements from magnesium to uranium in liquids, samples which require preparation, and those best analyzed in a sample cup. The convenient form factor of the CTX is ideal for soil, fertilizers, sludge, waste, liquids and other materials of environmental concern.

CTX Portable XRF analyzer (Mg to U)



Bruker's portable XRF features

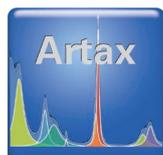
- Rh X-ray tube with high performance SDD detector
- 5 filter wheel (plus manual slot for TRACER 5)
- SharpBeam geometry for high performance, speed and sensitivity
- Touchscreen operation
- Internal camera (optional for CTX and TITAN)
- Wireless communication
- Battery or AC operation
- Lightweight and supplied with water tight transport case

Portable XRF Solutions for Environmental Stewardship



Pre-Installed Calibrations Available	Applicable Products	Elements (<i>Request Cal Sheet for LODs and Upper Ranges</i>)
Soil (SiO ₂ matrix only)	S1 TITAN / CTX 300	K, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Rb, Sr, Y, Zr, Nb, Mo, Rh, Pd, Ag, Cd, Sn, Sb, Ba, La, Ce, Ta, W, Pt, Au, Hg, Pb, Bi, U
Heavy Metals & Nutrients in Soil (SiO ₂ matrix only)	S1 TITAN / CTX 600/800 and TRACER 5	Mg, Al, Si, P, S, K, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Rb, Sr, Zr, Ag, Cd, Sn, Sb, Ba, Hg, Tl, Pb
GeoChem (Various soil and mineral type matrices)	S1 TITAN / CTX 300	K, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Rb, Sr, Y, Zr, Nb, Mo, Rh, Pd, Ag, Cd, Sn, Sb, Ba, La, Ce, Hf, Ta, W, Pt, Au, Hg, Pb, Tl, Bi, Th, U
Geo Exploration (Various soil and mineral type matrices)	S1 TITAN / CTX 600/800 and TRACER 5	MgO, Al ₂ O ₃ , SiO ₂ , P, S, Cl, K ₂ O, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, As, Se, Rb, Sr, Y, Zr, Nb, Mo, Rh, Pd, Ag, Cd, In, Sn, Sb, Te, Ba, La, Ce, Hf, Ta, W, Pt, Au, Hg, Tl, Pb, Bi, Th, U
Custom calibration	All products	Customer specified calibration
Customization of standard calibration	All products	Customer specified change in standard calibration

Optional Software, Hardware & Accessories



Benchtop Stand



Desktop Stand



Soilfoot



Protective Backpack

Related equipment



S2 PICOFOX™ mobile benchtop TXRF analyzer from Bruker with micro focus X-ray tube, multilayer X-ray optics for beam focusing and monochromatization. It simultaneously measures elements from magnesium (Mg) to uranium (U) at ultralow concentrations, as low as parts-per-billion, to high percentage levels. This analyzer is ideal for liquids, suspensions, powders, particles, metals, thin layers, tissues, wipes, filters and more.

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