XOS®
better analysis counts

HD Rocksand®

Quantifiable analysis of hazardous metals in soil and water

HD Rocksand is the only solution with an approved standard test method delivering quantifiable analysis of heavy metals in the field.

Applications

- Environmental Risk Assessments of Soil and Water
- Industrial Site Characterization
- Remediation Validation

Features

- Patented HDXRF analysis technology
- Hands-free testing mode
- A lightweight, easy-to-carry portable test stand
- Snap-in sample rotator
- Handheld measurement capability

Benefits

- On-site data collection enables real-time decision making
- Time and cost savings by minimizing lab measurements
- Ultra low detection limits
- Results at the push of a button
- Ability to traverse large brownfield sites with ease
- Outstanding measurement repeatability and reproducibility

ASTM 8064
EPA 6200

HD Rocksand®

HD Rocksand offers much more than simple screening. With best-in-class limits of detection, HD Rocksand delivers analysis below regulatory limits – particularly for elements like Cadmium, Arsenic, and Mercury.

- On par with laboratory methods
- Best-in-class levels of detection
- Hassle-free operation

Product Specifications

Test Method	ASTM D8064 & EPA 6200
Total Weight	<6.0 kg (13.2 lbs)
Test Stand Dimensions	25.4W x 21.8D x 37.8H cm
Sample Chamber Dimensions	22.1W x 16.3L x 5.1H cm
X-Ray Tube voltage, current	25-50kV, 200 µA
Optics	3 Doubly Curved Crystal Optics
Detector	SDD
System Electronics	512 MB Dual Core Processor
Battery	Li-ion, ~8hr run time normal operation
Display	10.9 cm WVGA (800RGBx480) TFT with touch screen, 16.7M colors, 217 dpi for viewing in full sunlight
Elemental Range	14 elements displayed (40 max)
Compliance	CE
Power Requirements	Battery or plug in to 90-264VAC, 47 ~ 63Hz, 3A @ 115V

Includes: portable test stand with sample rotator, handheld analyzer and HIM (human interface module), cross-contamination analyzer cap (for soil), charger (100-250 AC, 1A), (2) batteries, AC power cord, travel carrying case, (3) NIST soil validation samples, (4) single open-ended sample cups, (1) pack of 100 polypropylene 12um sample films

Limits of Detection in Parts Per Million (ppm)

Elements	Soil in Test Stand	Water in Test Stand	Soil with Handheld Analyzer
As	0.5	0.1	1.0
Cd	0.8	0.9	3.0
Hg	0.5	0.3	2.0
Cr	5.0	1.0	10.0
Cu	1.5	0.9	5.0
Ni	3.0	0.3	8.0
Pb	0.5	0.2	2.0
Sb	5.0	5.0	15.0
Se	0.4	0.1	1.0
Ag	2.0	2.0	6.0
Zn	1.0	0.6	3.0
Ba	15.0	10.0	20.0

HD Rocksand features an easy-to-use sample cup rotator for soil and water samples, enabling improved results for heterogeneous samples.

HD Rocksand[101]

HD Rocksand[101] is a streamlined option for customers who have screening needs today, but want the option to quantify results at low levels in the future. Customers can realize increased portability for easier screening analysis without forfeiting best-in-class precision. With its lightweight handheld analyzer and display, HD Rocksand[101] enables users to easily perform their testing in any terrain.

- Improves in-the-field workflow
- Handheld analysis without the need to remove a sample
- Upgrade package available for lab-quality results

Large samples like long drill cores, pit walls, and chunks of material can be easily screened without the need to remove a sample.

Product Specifications

Total Weight	<2.5 kg (5.6 lbs)
Analyzer Weight	1.7 kg (3.8 lbs)
HIM Weight	0.8 kg (1.8 lbs)
X-Ray Tube voltage, current	25-50kV, 200 μA
Optics	3 Doubly Curved Crystal Optics
Detector	SDD
System Electronics	512 MB Dual Core Processor
Battery	Li-ion, ~8hr run time normal operation
Display	10.9 cm WVGA (800RGBx480) TFT with touch screen, 16.7M colors, 217 dpi for viewing in full sunlight
Elemental Range	14 elements displayed (40 max)
Compliance	CE

Includes: handheld analyzer and HIM (human interface module), charger (100-250 AC, 1A), cross-contamination analyzer cap (for soil), (2) batteries, hard carrying case

Limits of Detection in Parts Per Million (ppm)

Elements	Soil
As	1.0
Cd	3.0
Hg	2.0
Cr	10.0
Cu	5.0
Ni	8.0
Pb	2.0
Sb	15.0
Se	1.0
Ag	6.0
Zn	3.0
Ba	20.0

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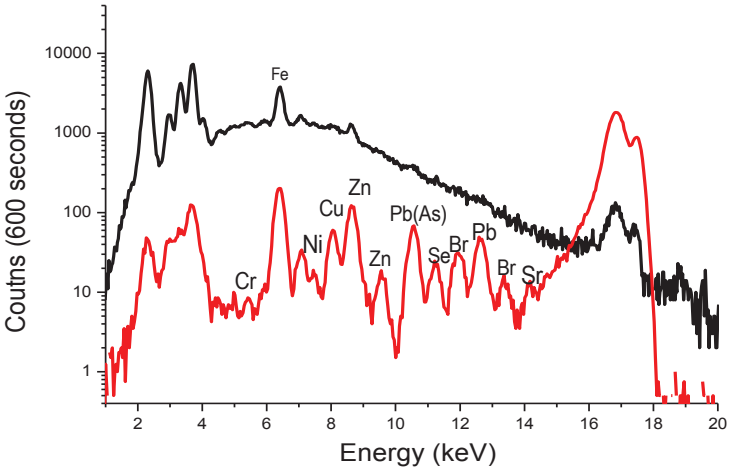
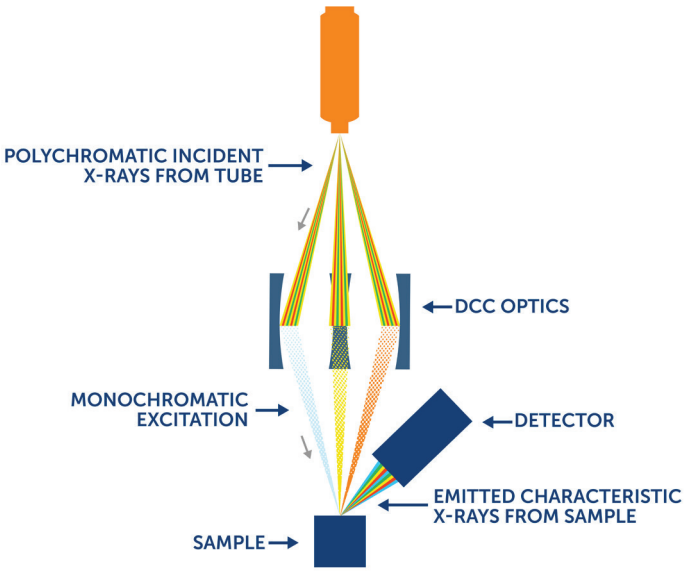
HDXRF is an elemental analysis technique which uses XOS's patented Doubly Curved Crystal (DCC) optics to enhance measurement sensitivity, precision, and accuracy. By using focused monochromatic excitation beams in three energy regions, HDXRF is able to eliminate scattering background and reduce interferences that hinder measurement sensitivity, repeatability, and speed. See diagram below.



By eliminating the background signal from the polychromatic source x-rays, HD Rocksand is able to achieve dramatically better signal definition that produces its best-in-class limits of detection and quicker results.

Powered by HDXRF



Double Curved Crystal (DCC) optics and multiple energy beams reduce background noise providing best-in-class sensitivity, repeatability, and speed.

Environmental Hazard Investigations

Brownfield sites possess many unique characteristics. They are large with uneven terrain, presenting many challenges to sampling. The HD Rocksand provides the flexibility to measure samples in numerous ways for simple, quick, accurate, and reliable analysis.

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