SciAps PowerHouse X for REEs

LIGHT & HEAVY REE'S IN THE FIELD... IN MINUTES!

KEY HIGHLIGHTS

- Delivers low, single digit ppm detection for critical LREE's La, Ce, Nd, and Sm
- Weighs about 22 lbs (< 11 kg) and is easily carried and operated in the field
- Fully shielded and interlocked

THE GROUNDBREAKING PORTABLE BENCHTOP XRF

- First ever portable XRF with an 80kV X-ray tube
- Measure Heavy REEs Dy, Tb, Ho, Er, Yb
- Battery Powered, Fully Shielded and Safety Interlocked

A groundbreaking portable XRF that operates SAFELY at 80 kV to deliver single digit ppm limits of detection for light and heavy REE's.

Limits of Detection (2 min)	
Ba	2
La	2
Ce	2
Pr	4
Nd	4
Sm	2-4
Eu	6-8
Gd	5-10
Tb	10-15
Dy	15-19
Ho	18-22
Er	23-28
Tm	30-40
Yb	30-35
Lu	50-60

*** LOD for Tb and Yb is more sensitive to neighboring interferences and matrix.**

Reliable and robust K-shell X-ray analysis.
Historically, in field XRF analysis of REE's attempted analysis via the L-shell X-rays due to X-ray tube power and voltage limitations.

L-shell analysis is complicated by the many interferences from transition metals including iron, copper, zinc, nickel, strontium, etc. The Powerhouse – REE uses a proprietary 80 kV X-ray tube. It's powerful enough to excite the K-shell X-rays through Lutetium, far away "spectrally" from interfering transition and heavy metal emissions.

YouTube.com/SciAps

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POWERFUL:

- Delivers low, single digit ppm detection for critical LREE's La, Ce, Nd, Sm
- In-field results for strategic HREE's Dy, Yb and others in a few minutes, with minimal sample preparation, no acids, no digestion like ICP

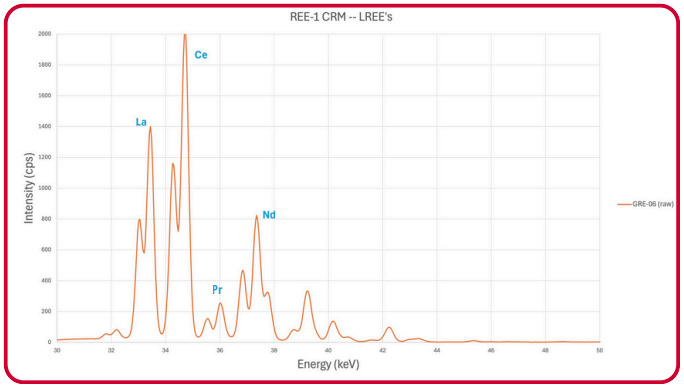
PORTABLE:

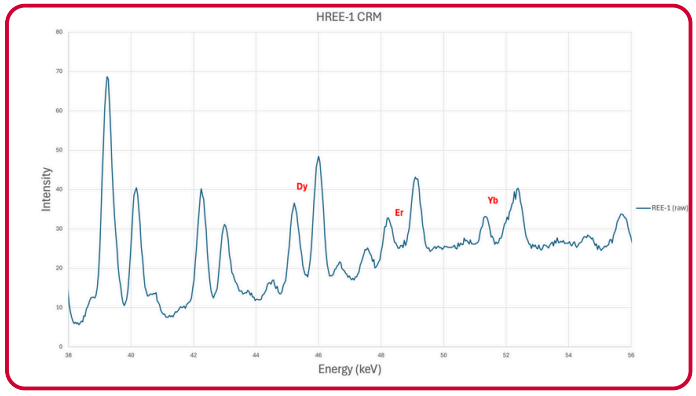
- Weighs about 22 lbs (< 11 kg) and is easily carried and operated in the field
- Battery operated, 2 batteries standard, with hot-swap capability
- AC charger included

SAFE:

- Fully shielded and interlocked
- Even at high duty cycles, radiation exposure to operator below all existing regulatory requirements

Spectra for a few common ore bodies are shown below. The PowerHouse efficiently excites the K-shell emission lines for both light and heavy rare earth elements (REEs). By analyzing these high-energy K-lines, the complicated spectral overlaps with common metals are avoided completely, yielding unprecedented limits of detection and superior performance compared to any other portable XRF. Full element suites:





Light REEs: La, Ce, Pr, Nd, Pm, Sm, Eu, Gd; **Heavy REEs**: Dy, Tb, Ho, Er, Tm, Yb, Lu, Y

Transition/pathfinder elements: Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Sr, Rb, Y, Zr, Nb, Mo, Ag, Cd, Sn, Sb, Ba

Heavy metals: Ta, W, Hg, Pb, Bi, U
Others may be available upon request.

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