Document Title: SciAps PowerHouse X for REEs

A poster of a person looking at a device

AI-generated content may be incorrect.

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| Layout Preview | **English Text** | Translated Text |
|  | 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. |  |
|  | \* 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. |  |
| (BACK) |  |  |
|  | 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. |  |
|  | ANDROID PLATFORM, SCIAPS CLOUD SERVICES: |  |
|  | Familiar Android operating system and app-based software assure quality testing by every operator. Global connectivity with on-board camera, Wi-Fi, and Bluetooth, with GPS capability for full-featured reporting. Easily manage operations from anywhere with SciAps Cloud Services. |  |