

## Instant Geochemistry & Mineralogy

SciAps field portable LIBS and XRF analyzers provide instant analysis of major and trace elements. Get the entire picture for research, exploration, grade control, block modeling, process optimization and environmental clean-up.



### LIBS

In-field analysis of Li, Be, B, C, Na, F – something no other handheld analyzer can do. • Lithium in hard rocks and brines • High sensitivity to other major elements Mg, Si, Al, Ca, K. • Map elemental distribution using our GeoChem Pro app.

### XRF

Smallest, fastest, most precise FPXRF available. • Perfect for gold pathfinders, transition and heavy metals.



# Analyze Any Mineral, Any Element, Anyplace on the Planet.

# Handheld LIBS

## It's All About the Technology

The acceptance of handheld LIBS for in-field geochemistry is accelerating. LIBS or Laser Induced Breakdown Spectroscopy is an analytical technique where, using a laser, a plasma is created on the sample. As the plasma cools characteristic photons are emitted and measured to determine elemental presence and concentration at the sampled location.

The SciAps Z features the most advanced LIBS technology of any handheld. The Z utilizes the most powerful laser, operating at 5-6 mJ/pulse, up to 50 Hz rep rate, Class 3B 1064nm wavelength. The spectrometer range of 190 nm out to 950 nm delivers full periodic table coverage.

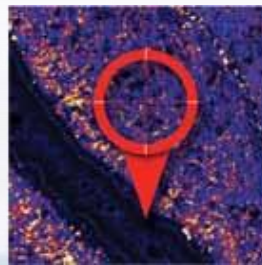
The patented OPTi-purge™ integrated argon gas purge (optional) yields better limits of detection for many elements compared to air-based analysis. Internal 3D stage raster the laser allowing for surgical analysis of inclusions or veins if desired, all easily viewed through the integrated camera and laser targeting.

The Z analyzes elements FPXRF can't

LITHIUM	BERYLLIUM	BORON	CARBON	FLUORINE	SODIUM
Li	Be	B	C	F	Na

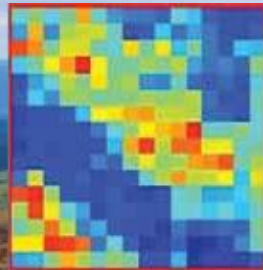
The Z offers greatly improved analysis of several major elements compared to FPXRF

MAGNESIUM	ALUMINUM	SILICON	POTASSIUM	CALCIUM
Mg	Al	Si	K	Ca



An X-ray fluorescence map (XFM) for Fe. SciAps hand held LIBS now allows targeted microanalysis of geological samples in the field.

*\*Australian Synchrotron's x-ray fluorescence microprobe (XFM) data courtesy of Shaun Barker (University of Waikato) and Jeremy Vaughan (Barrick)*



The corresponding LIBS element distribution map for Fe shows excellent correlation with the XFM map and using third party software such as Reflex ioGAS, contouring, RGB mapping and advanced analysis of data can be quickly and easily performed in the field.

## LIBZ Delivers a Whole New World of Analysis for Rock Samples

### The GeoChem App

Traditional Bulk Sample Analysis – SciAps Z handheld LIBS offers quantitative testing on a more comprehensive element suite than fpXRF with the GeoChem App. Analyze samples using factory calibrations or build your own user defined calibrations using SciAps proprietary Profile Builder™ PC software. SciAps GeoChem App allows easy collection of metadata, conversion of element to oxide, user selectable units of measurement between ppm and %.



### The GeoChem Pro App

Ground-breaking in-field microanalysis for geological materials. Map elemental distribution within minerals, veins and inclusions. Create and export element maps, spectral data at individual locations and import data into third party geochemical analysis software (ioGAS) for advanced analysis of data.



# Field Portable XRF

## It's All About the Experience

FPXRF is the established technology for in-field elemental analysis. So it's expected that the SciAps team, with more than 30 years experience designing and supporting FPXRF for the exploration community, would introduce an advanced FPXRF with all the performance and the features the industry demands.

### Elements Analyzed

The X is factory calibrated with 37 standard elements including all measurable pathfinders except REE's. The X is available with one of two X-ray tube anodes, either Au or Rh, depending on the application. The most common choice is the Au anode because performance is optimal for the vast majority of pathfinder elements including critical gold pathfinders for ore bodies high/low sulphidation epithermals, Orogenic, Carlin-type, Porphyry Cu-Au, iron oxide Cu-Au and others. The Rh anode provides broad coverage of transition and heavy metals and highly optimized performance for low atomic number elements Mg, Al, Si, P and S.

*Elements can be added or substituted at the factory, or by the user with our included desktop calibration software.*



Low-atomic number elements  
Mg, Al, Si, P, S, K, Ca  
Transition/pathfinder elements  
T, V, Cr, Mn, Fe, Co, Ni, Cu,  
Zn, As, Se, Sr, Rb, Zr, Nb,  
Mo, Te, Ag, Cd, Sn, Sb, Ba  
Heavy metals  
Ta, W, Au, Hg, Tl, Pb, Bi,  
U

Meet the X – the world's most advanced field portable XRF and the perfect complement to LIBS.

### Calibration Methods

The X uses both fundamental parameters (FP) and Compton Normalization (CN) calibration methods to quantify elemental chemistry. Operators may switch back/forth between methods for any element. In general CN is used for trace level analysis in ore samples with generally low concentrations of metals, and FP is used for concentrates or samples with percent level metal concentrations. Operators may modify existing calibrations to adjust for biases present in site-specific geologies, and create custom calibrations, all with our industry-leading ProfileBuilder desktop software.

### Other Features

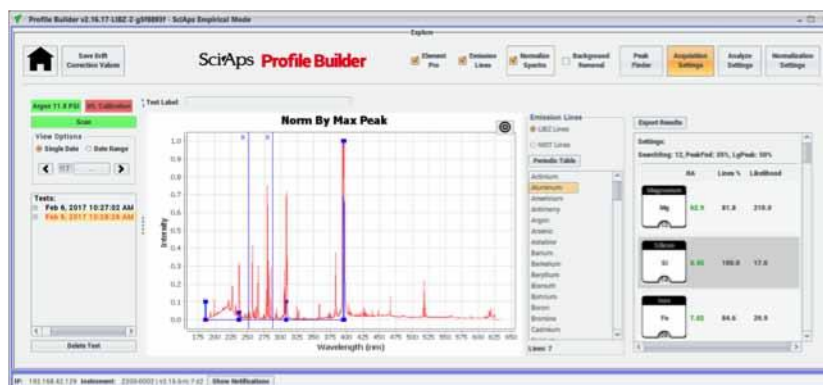
The smallest, lightest weight high performance FPXRF – especially designed for core analysis or any application requiring high volume manual testing. Android-based platform for global connectivity and App friendly. On-board camera, Wifi, GPS, Bluetooth and compatible with 3rd party data visualization packages including loGAS, Leapfrog.

## Tune and Customize your Laser and X-ray Calibrations with Profile Builder

# Profile Builder

Unleash the power of SciAps analyzers

SciAps Profile Builder (PB) frees you from reliance on factory generated calibrations and methods. Tune and customize your calibrations to local geochemistry with Profile Builder for XRF and LIBS. PB is loaded with common industry certified reference materials (CRMs with assays) and users may add more. View calibration curves, generate new ones, build highly customized models for your own elements of interest. Overlay and compare mineral spectra and more.



The X and Z can be operated as simple, point-and-shoot analyzers with factory calibrations, or as sophisticated tools with the power to create advanced analytical methods – you decide.

Still Can't Decide?  
get 'em both.



## The One Box

The industry's only complete geochemical solution in a handheld package. With the LIBS plus XRF, you analyze any element, and any type of geochemical sample – soils, powders, liquids – with best precision across the entire periodic table. The X and Z share the same user interface, same batteries, chargers, cables.

## Driving the Evolution of In-field Geochemistry.

*X-ray and Laser analyzers designed, built and supported by people with years of experience in the development of ruggedized, field portable analytical tools for the mining industry and geological research.*



INTRODUCING SCIAPS  
**CONNECT**

### NEW! Global Connectivity.

Our Connectivity software package offers revolutionary data sharing and reporting for the Z or X.

#### Real-time data sharing globally

The X and Z run Android. With our synch feature, the analyzers send every test result instantly, to any designated computer(s), anywhere in the world, provide both have internet access. For exploration this means in-field or core-shack data can be shared and backed up in real time from any location remotely. The implications are profound. Monitor test data and testing quality remotely, in real time. Verify correct analyzer operation and calibration checks. Eliminate time-wasting manual data exporting, incorrect testing procedures, and manual data downloading.

#### Data Sharing

Run the X or Z from any tablet or Smartphone that has Bluetooth capability. Get results instantly shared to your phone, email anywhere.

#### Printing Simplified

Print data or pdf test reports to any Wifi or Bluetooth printer. Forget the cables.

### Quantum-RX

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