

Field-Based portable lithium detection service

Fast elemental analysis of lithium and associated matrix elements at the wellsite

GEOLOG Approach

Analysis is performed **in the field** or at the **well site** using compact, **fully portable**, and reliable **Laser-Induced Breakdown Spectroscopy (LIBS)** instruments that can operate even in the harshest environments. Fully quantitative results are available **in under two minutes per sample**.

GEOLOG's LIBS technology can be combined with our additional Digital Cuttings™ and X-Ray Fluorescence (XRF) technologies, resulting in **rapid and comprehensive inorganic geochemical analysis of the sample**.



Portable LIBS advantages

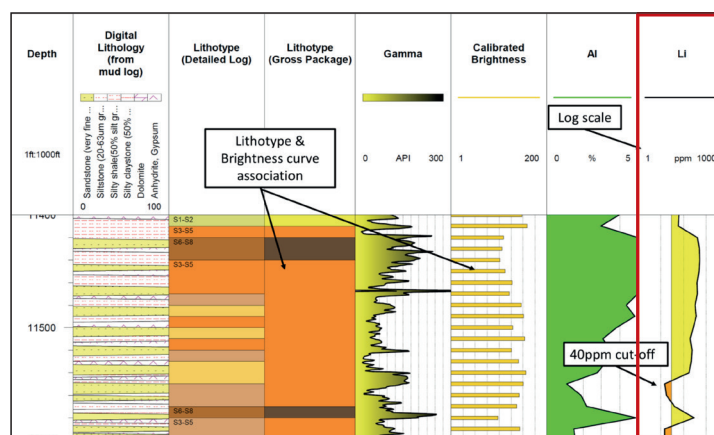
- **Field-based, fully portable** with per sample results available in **less than 2 minutes**
- Sample types can include **drill cuttings, core pieces, outcrops, and brines**
- Detects light elements such as **lithium, carbon, nitrogen, oxygen, beryllium, and boron** — elements that are otherwise undetectable by XRF
- Can detect very low levels (**below 10 ppm**) of **lithium in both solid and brine samples**

Conventional Approach

Expensive and time-consuming laboratory analysis techniques are currently the only methods available for detecting lithium. Solid or liquid samples must be collected in the field and sent to a specialized laboratory for analysis, often resulting in long turnaround times.

GeoLithium™ Advantages and Applications

- Suitable for exploration, appraisal, and development projects where early geochemical data is needed for evaluation and rapid decision-making. The service can be deployed as a complete standalone alternative to mud logging services or integrated with other GEOLOG advanced services (e.g., Digital Cuttings™, XRF, XRD)
- Provides geochemical data in near real-time, compared to delayed laboratory results
- Easy to ship, avoiding regulatory restrictions typically associated with bulky and X-ray-emitting devices
- Can operate in countries with export restrictions - no need to ship any samples



Combined Digital Cuttings™ and GeoLithium™ (red outline) plot, showing lithium yield with depth (from drill cuttings samples)



GEOLOG