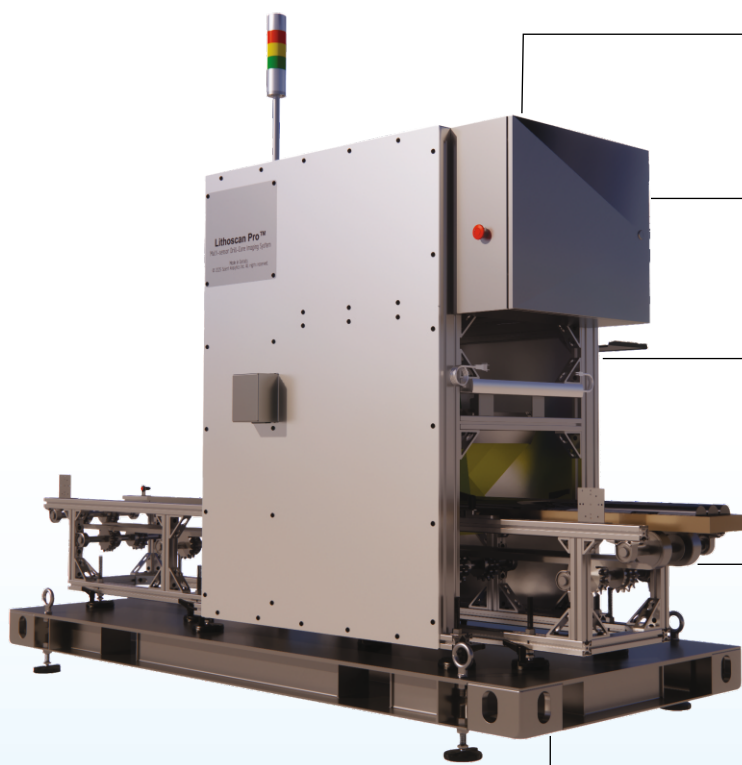


# LithoScan™

## Portable, High-Speed Drill Core Analysis

LithoScan is Scient's high-throughput drill-core scanning solution, delivered with LithoScope software for advanced hyperspectral analytics, to generate a consistent, high-resolution digital core record and produce mineral, alteration, and elemental outputs at a pace that fits

### What We Deliver



- **Create a digital twin of your drill core**  
consistent, high-resolution record by tray and depth
- **Map minerals and alteration patterns non-destructively**  
hyperspectral & elemental analytics
- **Shorten the loop from drilling to interpretation**  
real-time data capture and streamlined reporting
- **Enable review, share, and revisit samples across teams reports**  
through a structured, searchable digital core library
- **Generate elemental maps and geochemistry reports**  
with integrated XRF

# LithoScan Sensor Specification Snapshot

Features	Primary variability captured	Measurement range	Spectral sampling / bands	Spatial Resolution	Best used for
<b>Hyperspectral (VNIR)</b>	<ul style="list-style-type: none"> <li>Fe-oxides and hydroxides (hematite–goethite trends; limonitic zones)</li> <li>Fe-bearing silicates (relative mafic–felsic character)</li> <li>Manganese oxides and some sulfides via color</li> <li>Vegetation/organic cover vs bare rock</li> </ul>	350–1000 nm	~1.69 nm sampling; ~447 bands	Down to ~50 µm	<ul style="list-style-type: none"> <li>Mapping oxidation zones, gossans, laterites</li> <li>Discriminating hematitic vs goethitic caps</li> <li>Separating exposed rock from vegetated or soil-covered ground</li> </ul>
<b>Hyperspectral (SWIR)</b>	<ul style="list-style-type: none"> <li>Al-OH: white mica group</li> <li>Mg/Fe-OH: chlorite, epidote, some amphiboles</li> <li>Clays: kaolinite vs smectite vs illite mixtures</li> <li>Carbonates: calcite vs dolomite/ankerite families</li> <li>Sulfates: alunite, jarosite, gypsum</li> </ul>	900–2500 nm	~5.4 nm sampling; ~288 bands	Down to ~400 µm	<ul style="list-style-type: none"> <li>Hydrothermal alteration zoning (argillic, phyllic, propylitic)</li> <li>Vectoring toward porphyry, epithermal, skarn and IOCG systems</li> <li>Discriminating carbonates, clays and sulfates in sedimentary/alteration settings</li> </ul>
<b>Hyperspectral (MWIR)</b>	<ul style="list-style-type: none"> <li>Carbonate and sulfate features</li> <li>C–H fundamentals in organic coatings/hydrocarbons (where signal and SNR allow)</li> </ul>	2700–5300 nm	~8.44 nm sampling; ~154 bands	Down to ~700 µm	<ul style="list-style-type: none"> <li>Characterising bound water in altered rocks and fracture zones</li> <li>Supporting carbonate/clay discrimination</li> <li>Detecting hydrocarbon/bitumen signatures in suitable settings</li> </ul>
<b>Hyperspectral (LWIR)</b>	<ul style="list-style-type: none"> <li>Framework silicates: quartz vs feldspar groups; felsic vs mafic assemblages</li> <li>Silica content trends (rhyolitic vs intermediate vs mafic units)</li> <li>Rock-forming minerals that are featureless in VNIR–SWIR (many feldspars, quartz, mafic silicates)</li> <li>Carbonates, clays, sulfates via distinct lattice modes</li> </ul>	7700–12300 nm	~30 nm sampling; ~160 bands	Down to ~730 µm	<ul style="list-style-type: none"> <li>Lithologic discrimination and unit mapping from regolith/outcrop</li> <li>Silica/quartz-rich units (quartzites, chalcedony, silica caps, sinter)</li> <li>Differentiating carbonate platforms vs silicate basement</li> <li>Refining host-rock architecture in porphyry, epithermal, skarn, sediment-hosted and IOCG systems</li> </ul>
<b>Laser profiler</b>	Surface geometry (height, breaks, roughness)	FOV up to ~2 m	N/A	Down to ~2.5 µm	<ul style="list-style-type: none"> <li>3D surface and break maps</li> <li>Roughness and volume estimates</li> <li>RQD-assist metrics</li> </ul>
<b>RGB camera</b>	True-color texture and visual context	Visible	N/A	Down to ~20 µm	<ul style="list-style-type: none"> <li>Visual logging context</li> <li>Core and sample documentation</li> </ul>
<b>XRF</b>	Elemental chemistry (spatial geochemistry)	Element range	Energy channels	Down to 1mm	<ul style="list-style-type: none"> <li>Spot elemental measurements and ratios</li> <li>QA/QC zoning and reconciliation vs lab assays</li> </ul>

## Where LithoScan Adds Value

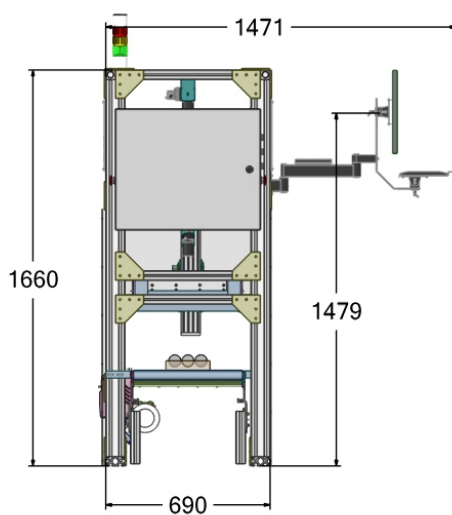
### Mineral Exploration

LithoScan enables sharper domain definition by combining mineral/alteration outputs with XRF elemental context to strengthen boundaries and interpretations. Identifying alteration patterns, mineralization and change in trace elements act as vectoring tools for faster, non-destructive assessment of drill core.

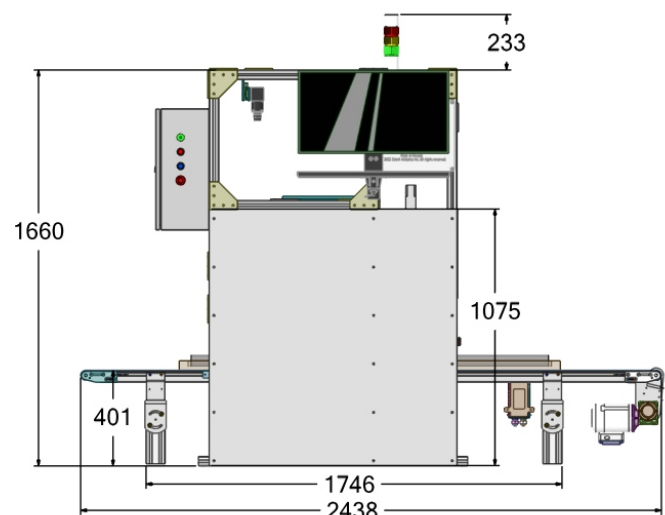
### Resource Development & Delineation

For projects moving into delineation and resource modeling, LithoScan creates a standardized digital data set that complements visual logs with meter-by-meter mineral and alteration layers plus elemental context from XRF. This improves confidence in ore-waste boundaries, mineral domains, and interpretation of variability.

*LithoScan footprint and clearance envelope*



Front View



Side View

### Grade Control in Production Environment

In producing operations, LithoScan enables real-time grade control decisions by digitizing core and generating mineral and elemental layers on site. This reduces dilution risk, supports stockpiling and blending decisions, and shortens feedback loops that typically wait on lab turnaround.

### Legacy Core Digitization & Reinterpretation

LithoScan digitizes archived core non-destructively and enables re-analysis at a fraction of the cost of new drilling. Integrating hyperspectral-derived mineral/alteration layers with XRF geochemistry turns stored core into a reusable digital asset for reinterpretation and new targeting.

# Exploration Workflow



## Rapid lithology and alteration screening

Creates a consistent digital baseline to quickly identify boundaries and alteration patterns for targeting and vectoring.

## Vein and feature review for structural context

Build a shareable digital record to review textures, vein styles, and cross cutting relationships at scale.

## Better comparability across holes and domains

Standardized outputs improve comparability across holes, domains, and programs.

## Domain consistency and scalable re-logging

Support consistent re-logging and domain validation using a reviewable digital archive.

## Geometallurgy support

Enable mineralogical variability screening to strengthen geometallurgical interpretation.

## QA/QC & Technical Review

Improve auditability and speed technical reviews with an accessible digital core record.

# 100X 8X 60%

higher spatial resolution  
(vs conventional core  
photo workflows)

Faster  
core processing

Lower cost of  
core analysis

## See Products in Action

### Contact us

✉ [Contact@Scient.ca](mailto:Contact@Scient.ca)

🌐 [scient.ca](http://scient.ca)

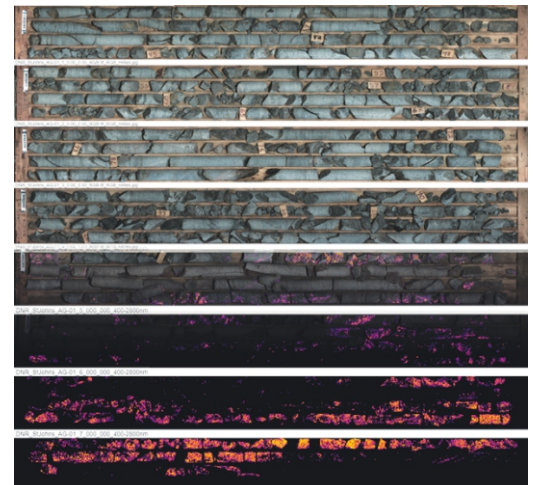
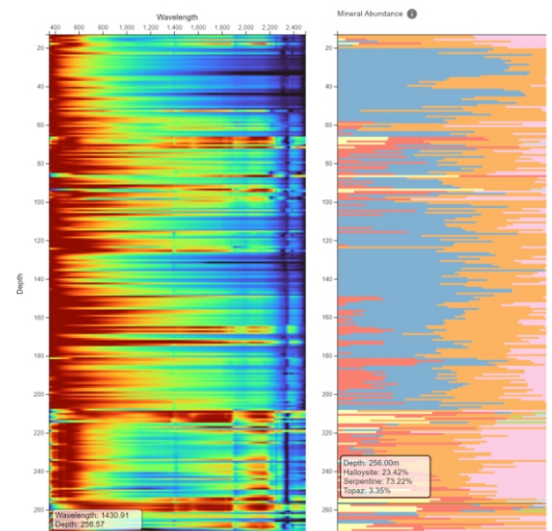
# LithoScope™

## Cloud Software for Hyperspectral + XRF Drill Core Interpretation

LithoScope turns hyperspectral data from drilling samples into depth-calibrated, actionable interpretation outputs that geologists can review, validate, and export into standard subsurface workflows.

### Why technical teams use LithoScope

- Start fast with trusted references:** Built on integrated spectral libraries (USGS & CSIRO) and >10,000 standard mineral samples to accelerate mineral identification from day one.
- Project-specific accuracy over time:** Build custom spectral libraries from your own project samples to capture the unique signatures tied to mineralization and alteration, then consistently locate those signatures throughout.
- Actionable outputs, not just images:** Generate continuous, depth-calibrated logs designed for direct use in modeling and interpretation platforms (e.g., Leapfrog, Petrel, Kingdom).
- Built for collaboration:** Cloud access enables synchronous review, commenting, and interpretation visibility across the geo team, without heavy local compute or separate workstation licensing overhead.
- Scales for relogging and reinterpretation:** Revisit archived or previously scanned core efficiently as targets, commodities, or geological questions evolve.



## Key Capabilities

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### Spectral libraries and mineral intelligence

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**Comprehensive spectral libraries** to jump-start classification and mineral identification.

**Custom spectral libraries** based on project samples, with repeatable identification across the dataset once signatures are defined.

**Automated mineral identification and alteration mapping** using AI-assisted workflows

### Classification and analytics engines

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**Supervised and unsupervised classification** options to match your geology and exploration stage.

**Automated spectral unmixing and absorption-feature detection** to support mineral discrimination and alteration interpretation.

### Outputs and integration

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**Export interpretations as depth-calibrated logs** for integration into subsurface modeling and interpretation software (Leapfrog, Petrel, Kingdom).

**QA/QC-ready interpretation workflow** that supports technical review and consistent decision-making across teams.

## We're committed to making your engagement successful.

- Staff training and best-practice knowledge transfer
- Data conditioning and onboarding
- Pilot studies to assess feasibility for your geology and workflow
- Customer success support during operations
- Optional expert consultation for complex projects



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