LithologIQ

SCAN - ANALYSE - DELIVER

Mobile Core Scanning Solution

Connecting Rock Properties to Value Drivers

2025

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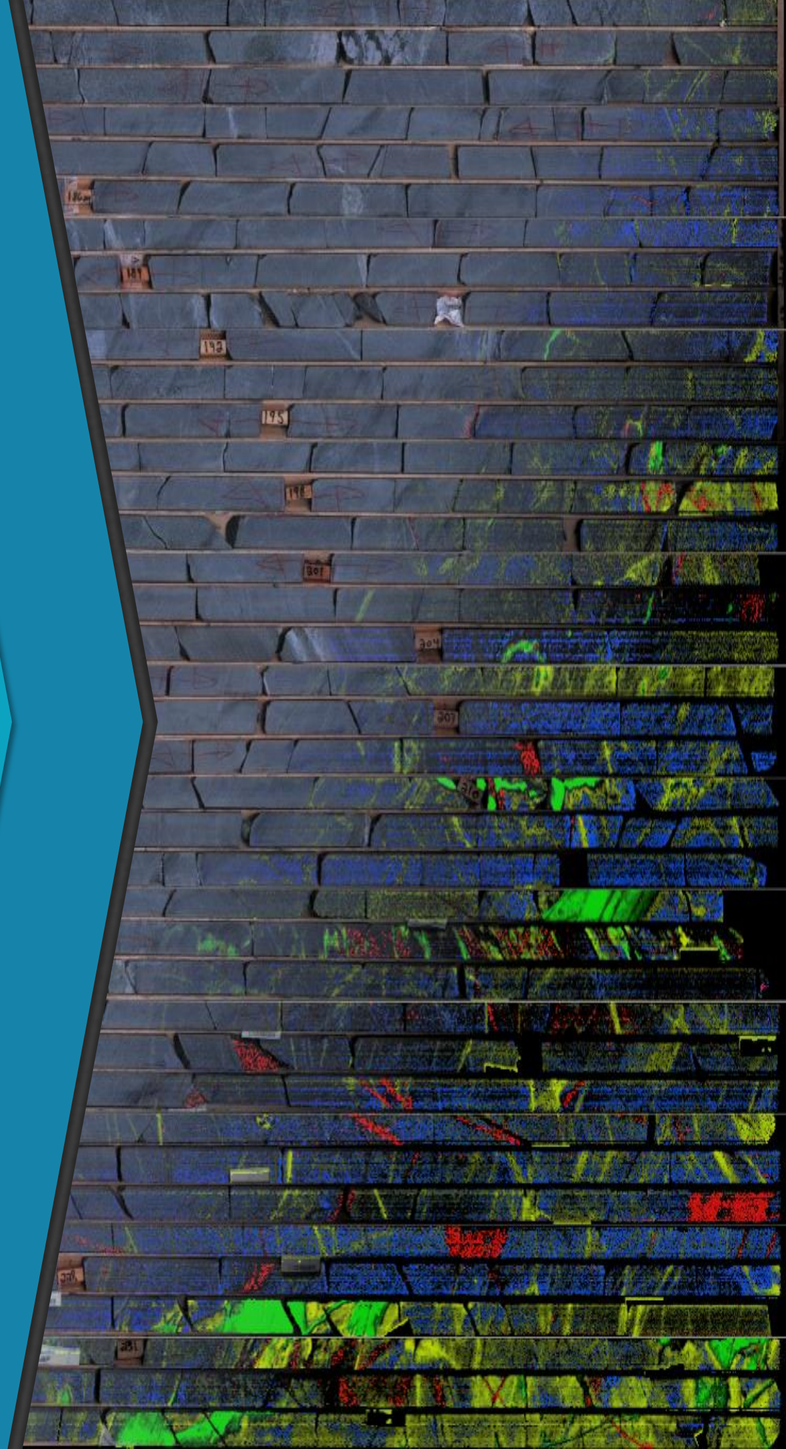


About Us

Connecting Rock Properties to Value Drivers

Hyperspectral Core Pre-Logging Directly at the Mine Site

High-Quality, Fast and Accurate Mineralogy for Insightful Decision Making

LithologIQ is a technology company leveraging the latest advancements in **Hyperspectral Imaging** and **Artificial Intelligence** to deliver mobile mineralogical analysis solutions. These solutions accelerate mining discoveries and optimize mine operations, transforming workflows across the mining industry and delivering a quick return on investment.

Our Core Values:

- **Innovation**
- **Collaboration**
- **Value Adding**
- **Sustainable**

Head Office: Montreal, Québec, Canada

Core Logging Challenges

Mining and Exploration

Manual Core Logging

- ✗ Lengthy Core Logging
- ✗ Inconsistent Estimation
- ✗ Inefficient Use of Personnel
- ✗ Human-eye's Limited Data Collection
- ✗ Complicated Integration
- ✗ Logistic Challenge

LithologIQ Automated Core Logging

- ✓ Fast Core Logging
- ✓ High Accuracy
- ✓ Automated Process
- ✓ Quick Decision Making
- ✓ Full Integration
- ✓ Quick Return on Investment

Video Link: https://youtu.be/hkSco6Abhww?si=9Ydg0vOSJIQFjcfC

LithologIQ Core Scanner

All-in-One Mobile Lab

The LithologIQ mobile core scanner lab offers the fastest scan time and quickest delivery of actionable reports. Equipped with the most sensors for the best accuracy and requiring no site-specific algorithm training, it provides one of the most cost-effective solutions available

Manual Logging


Drill Core Production


Visual Logging


Sample Preparation


Lab Transportation


Turnaround Time


Decision Making

Other Technologies	
Scan Time	**3-60 Minute** per Core Box
Box Handling	**Manual Loading** Single Box
Imaging Volume	**30m-1000m** per Day
Instruments	**1-4 Sensors** VNIR, SWIR, MWIR, LWIR, XRF, Mag, 3D, RGB
New Setup Time	**Days to Weeks** Initial Setup
Analysis Type	**Blackbox** Site-Specific Library Training Required
Deliverable	**1-4 Weeks** Downhole Mineralogy
Cost	**$20-$100** per Meter

Results in Weeks +

LithologIQ	
Scan Time	**1 Minute** per Core Box
Box Handling	**Automated Loading** Multiple Boxes Queue
Imaging Volume	**2,000m** per Day
Instruments	**7 Sensors** VNIR + SWIR + MWIR*, LWIR* + RGB + Mag + UV
New Setup Time	**Immediate** No training or site-specific algorithm
Analysis Type	**On-Site Direct Mineralogy** On-device Offline
Deliverable	**24 Hours** Downhole Mineralogy + Spectral Metric
Cost	**Project Base** per Meter

Results in 24 Hours

LithologIQ Mobile Lab

Cameras and Sensors

7 Cameras and Sensors

Hyperspectral Cameras (1mm/pixel):

VNIR: 400 - 1000 nm - Rare Earth Elements

SWIR: 1000 - 2500nm - Hydrated minerals (muscovite/sericite, biotite, chlorite + chemistry)

MWIR: 2800 - 5400 nm - Carbonates (calcite, siderite, ankerite)

LWIR: 7500 - 12000 nm – Silicates, Quartz (Silicification, Rock Hardness)

High-Resolution Camera (50 µm/pixel):

RGB: Wet + Dry – RQD

Other:

Mag: Magnetic Susceptibility - Responsive Minerals

UV: Fluorescence - Spodumene

LithologIQ Analyse

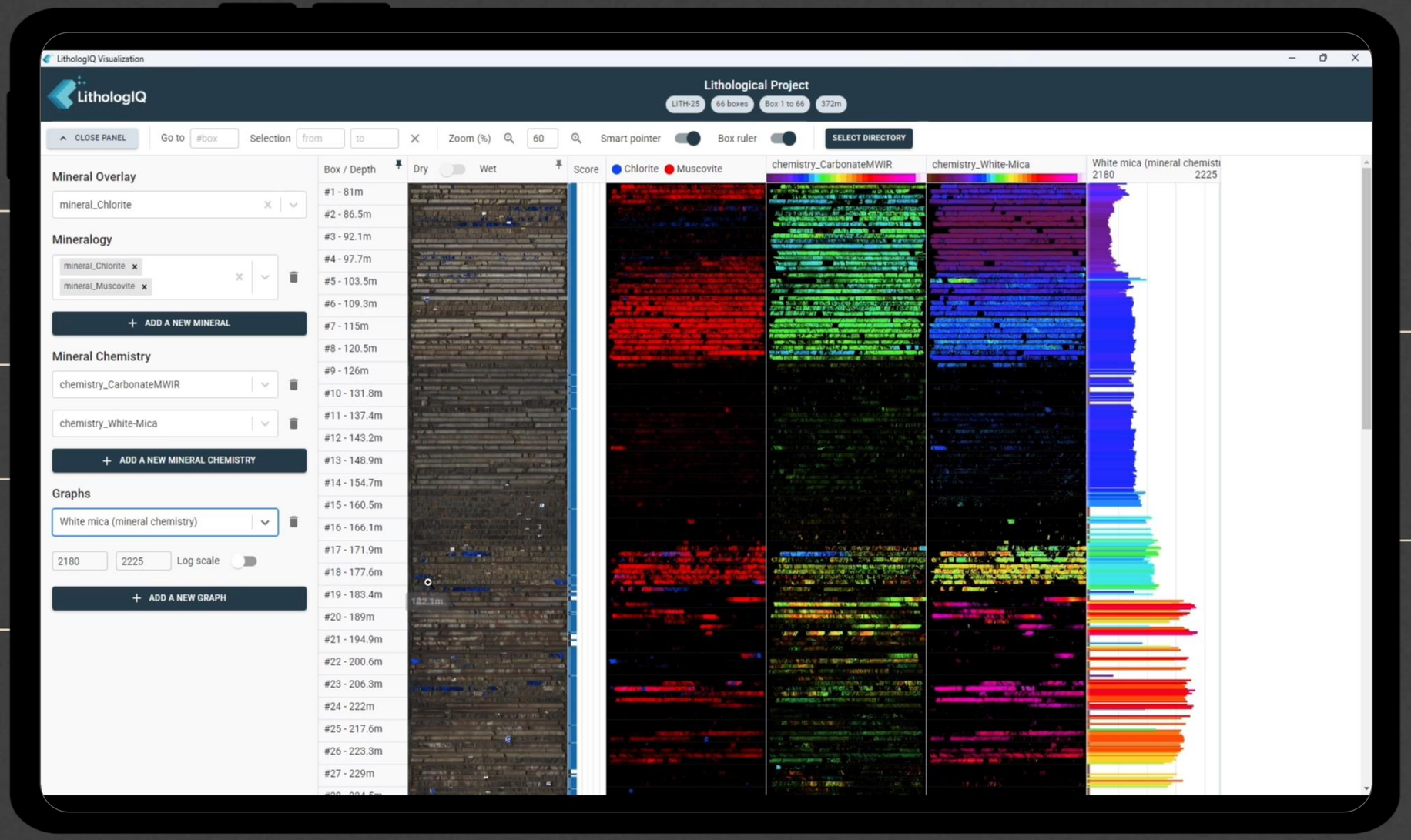
Viewer Dashboard

RGB Mineralogy

Mineralogy Overlay

Chemicals Overlay

Graphs Filters



Hyperspectral Mineralogy

Mineral Chemistry Graph

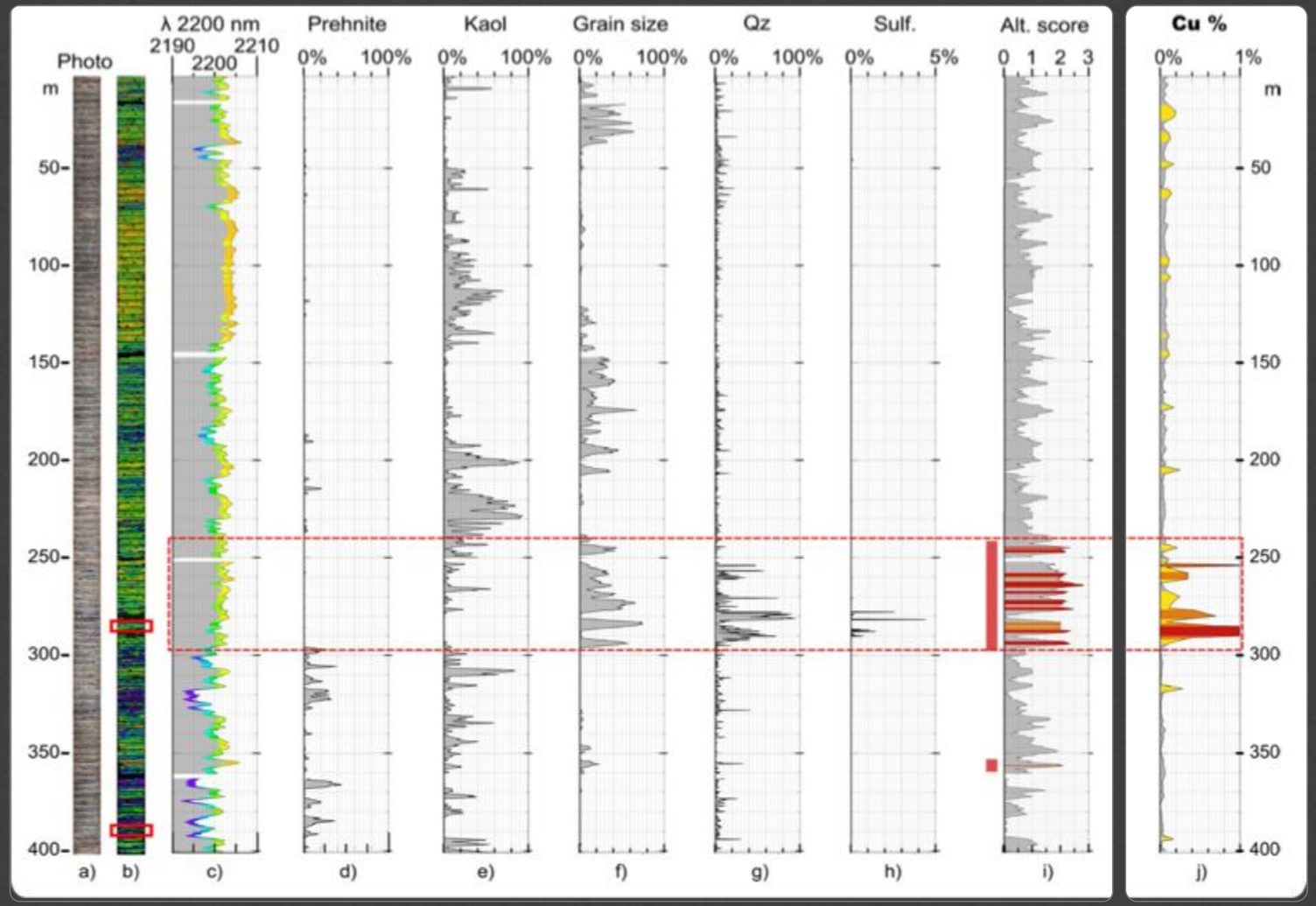
Video Link: https://lithologiq.ca/wp-content/uploads/2025/03/dashboard_lithologic.mp4

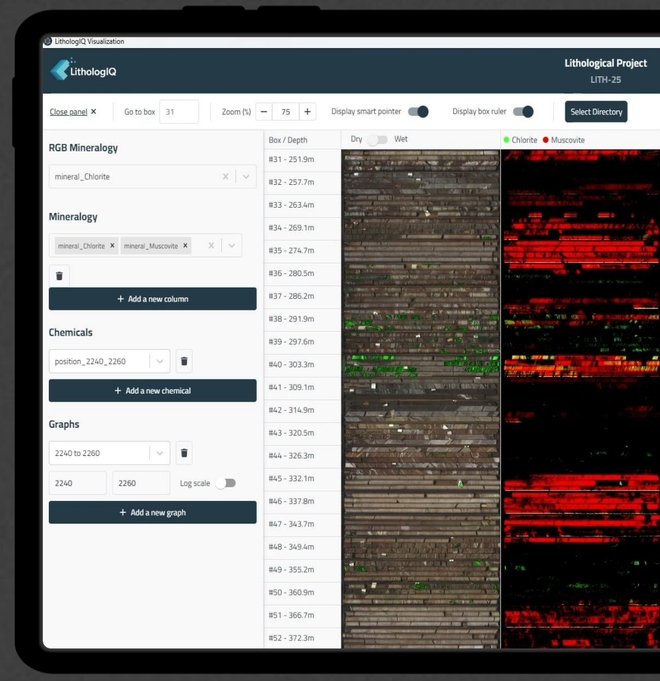
Downhole Mineralogy

Scan to Data in 24 Hours

LithologIQ Report
(24 Hours)

Ground Truth
(Months+)



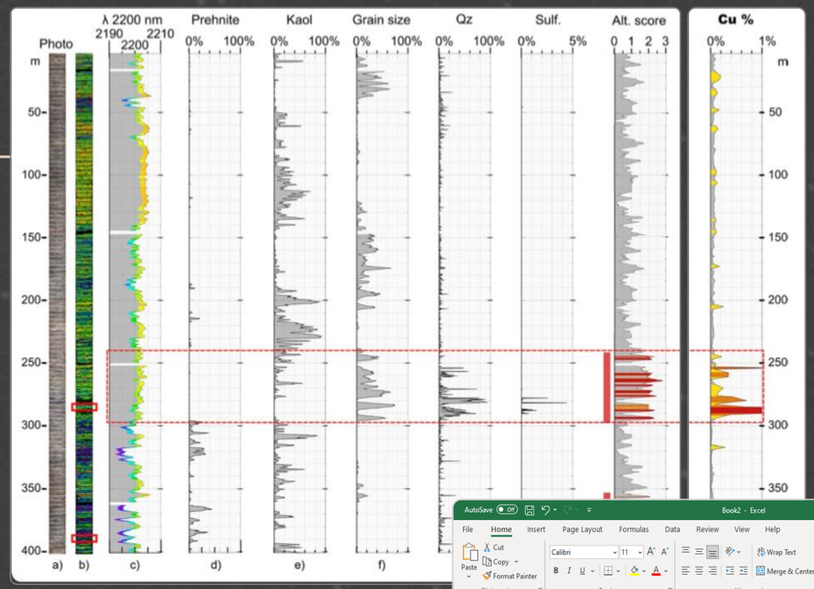


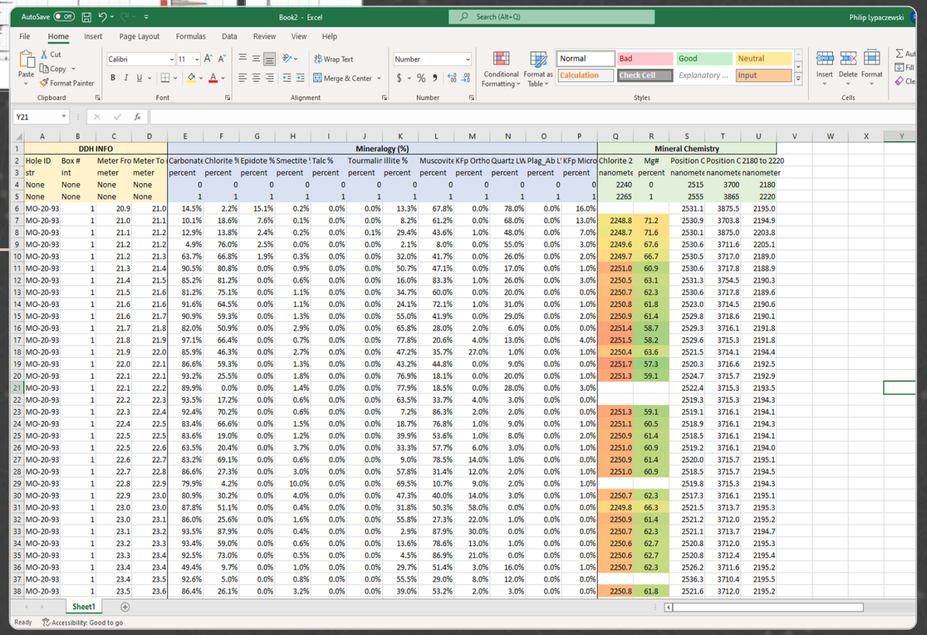
LithologIQ Compatibility

Data Delivery

Data Delivery (24hrs)

- Interactive Viewer Dashboard
- High-Resolution RGB
- Hyperspectral Mineralogy
- Mineral Chemistry
- Spectral Alteration Score
- Downhole Mineralogy .csv





Data Compatibility

- Resampled to Assay Intervals
- Geology and 3D Software Compatible
  - Leapfrog
  - GeoticLog
  - MXDeposit
  - Datarock
  - Others

Data Usage

Gold

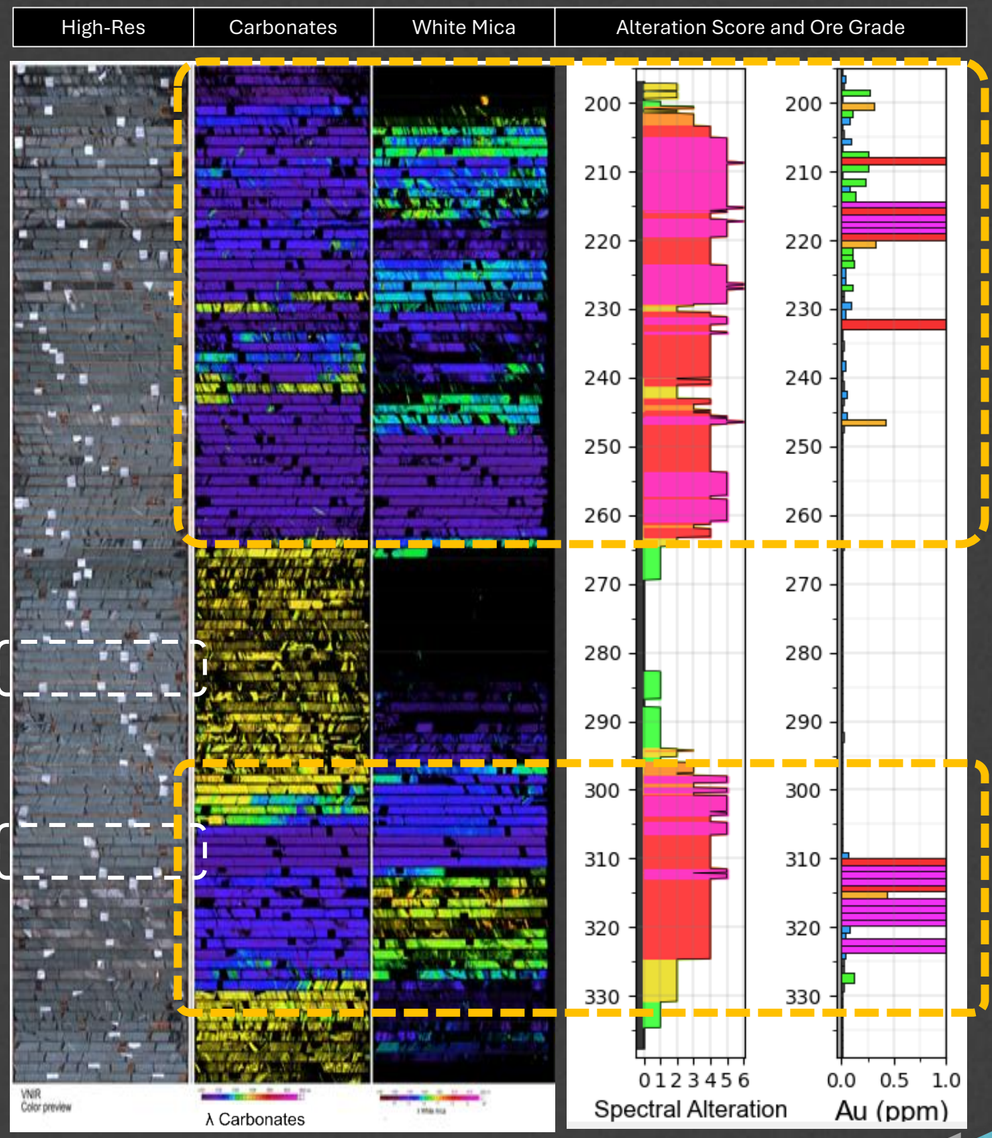
Gold Project

Column 1: High-Resolution Photo of Wet Core

Column 2: Alteration mineralogy **Ankerite** proximal vs **Calcite** distal

Column 3: Detection clays and micas (**Muscovite**)

Background Zone vs Mineralized Zone (White mica presence not visible to the naked eye)



Data Usage

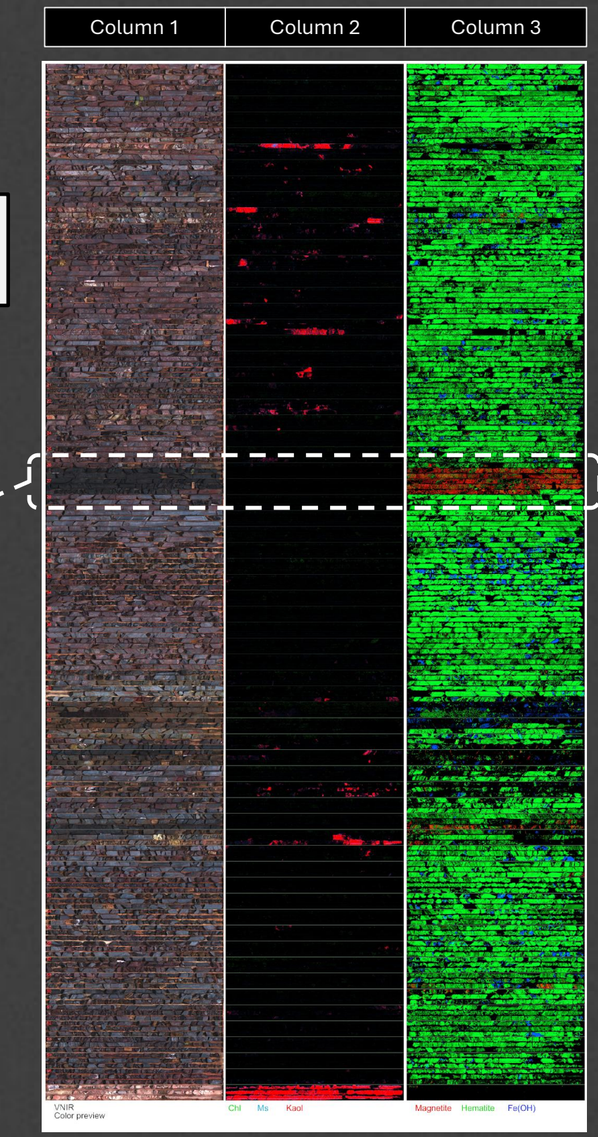
Iron Ore

Iron Ore Minerals

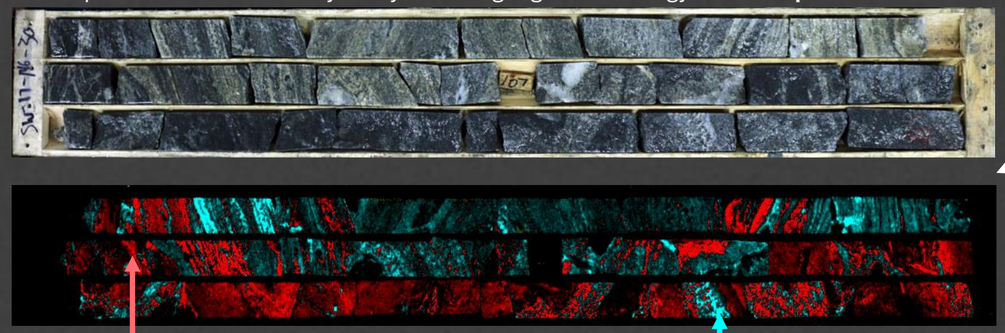
Column 1: High-resolution photo of wet core

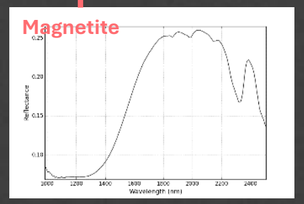
Column 2: Mapping of deleterious minerals such as **Carbonates** or **Kaolinite**

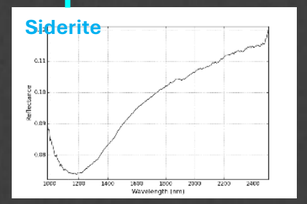
Column 3: Identification of **Hematite** vs. **Magnetite** vs. **Limonite** ratio



Each pixel will be individually analyzed to highlight mineralogy at **1 mm/pixel**







Data Usage

Copper

Copper Project

The presence of these minerals (and the absence of others) can be used to compute a spectral alteration score to estimate if a sample is potentially mineralized

Felsic Rocks:

Cu mineralization is associated to:

- Quartz
- Coarse white mica (high-Al)
- Kaolinite

Distal alteration is associated to:

- Prehnite
- Coarse white mica (low-Al)

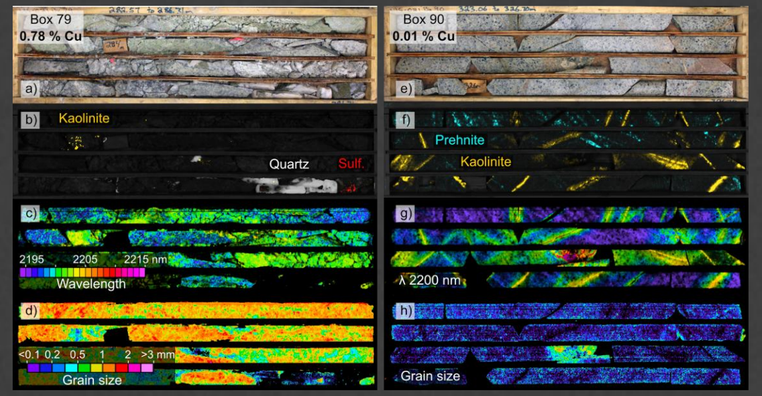
Mafic Rock:

Cu mineralization is associated to:

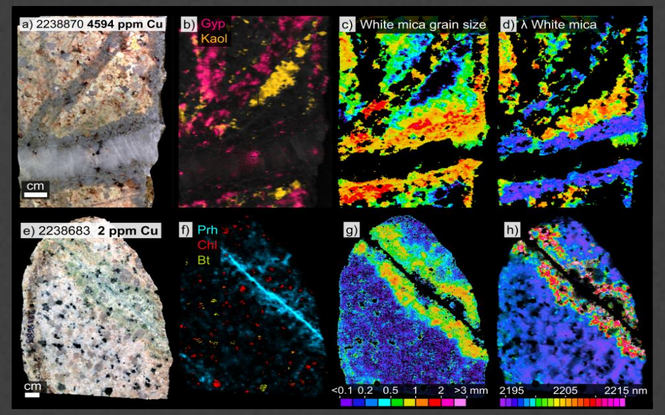
- Tourmaline
- Large amounts of epidote

Distal alteration is associated to:

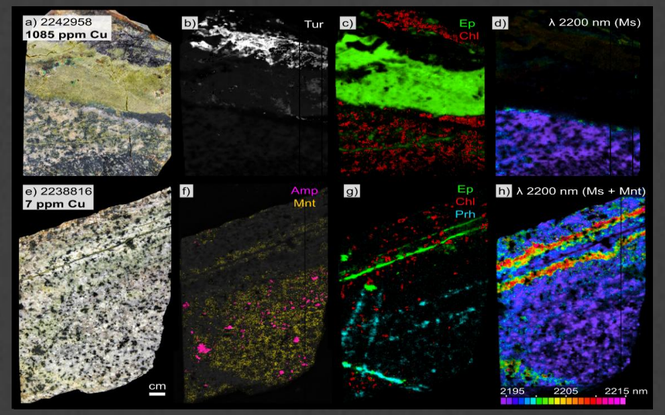
- Prehnite
- Phengitic white mica



Felsic Rocks



Mafic Rocks

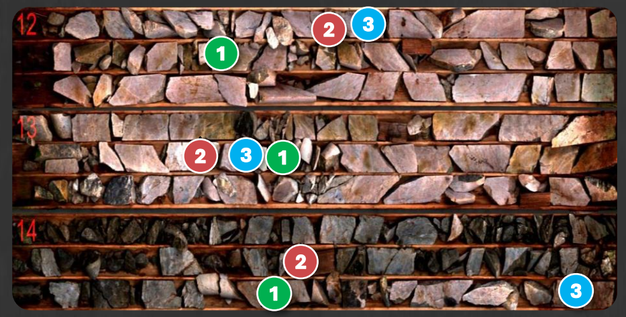


Core Logging

Full-core, Cut-core, Split-core

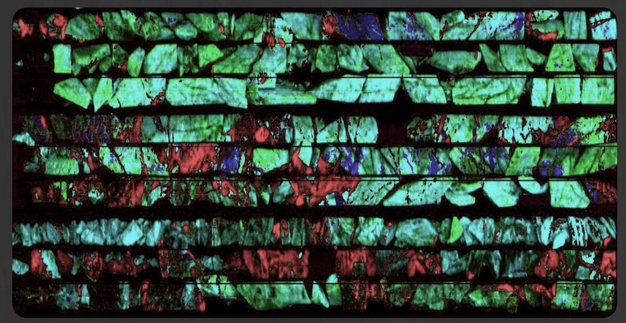
Core Logging

Example: Data Collection Comparison of Manual Logging vs. LithologIQ Hyperspectral Logging



No Hyperspectral (Manual Sampling)

- Sampling 1 → Muscovite
- Sampling 2 → Kaolinite
- Sampling 3 → Clays

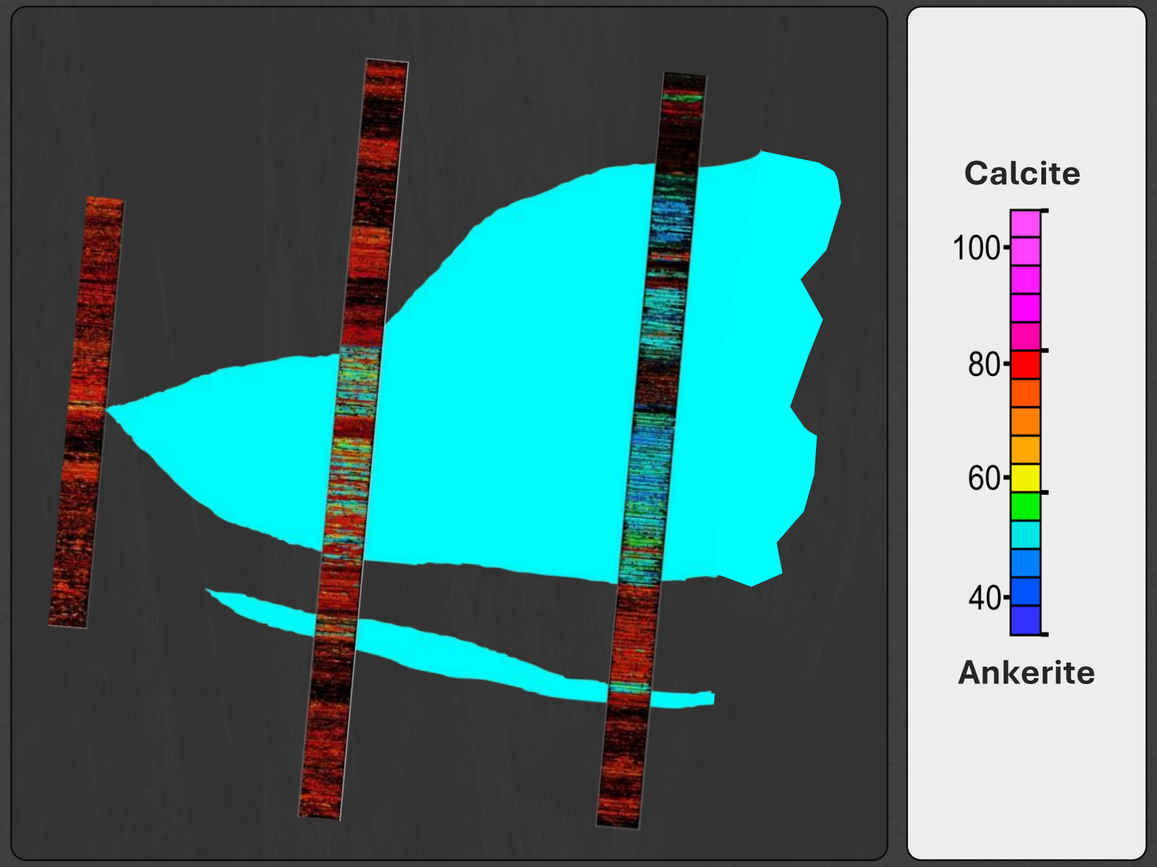


LithologIQ Hyperspectral Imaging (1mm/pixel)

Hyperspectral Imaging → All of Above

- Muscovite → 51.3%
- Kaolinite → 38.4%
- Swelling Clays → 6.4%

Section of Downhole Carbonate Chemistry

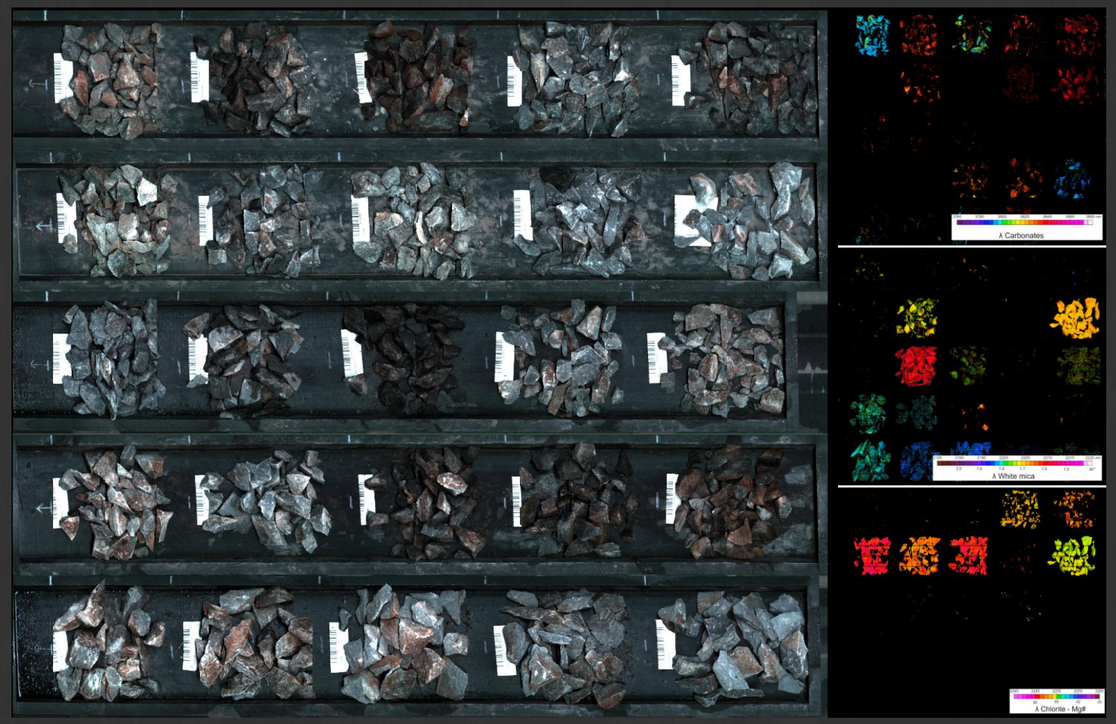


RC Chip Logging

Particles Scanning, Hand Samples

Chip Logging

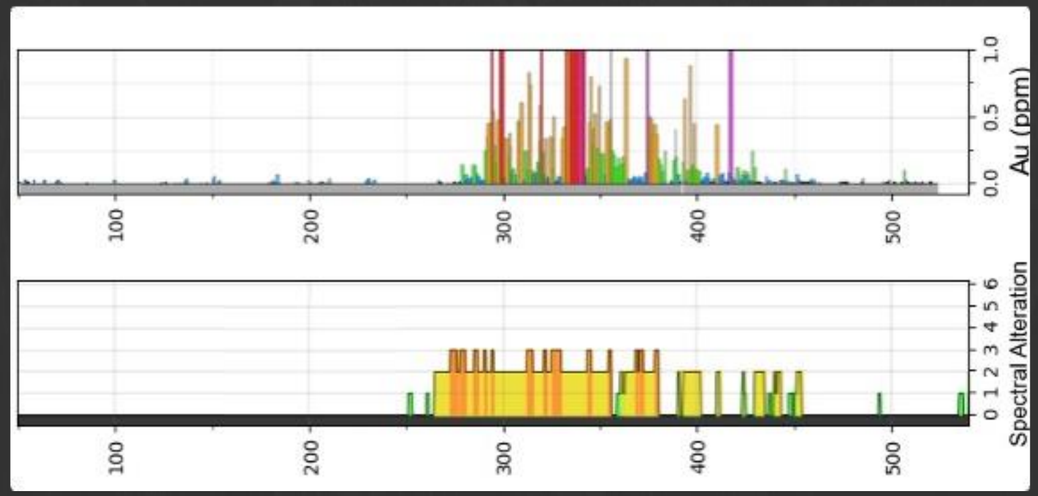
Example: Drill cuttings from blast drilling or ore grade estimation



Quick diagnostic

Case Study Result:

Alteration and mineral chemistry mapping	→	Grade Estimation
Rock hardness from silicification content	→	Blast Charges Optimization
DDH Example on 2000 m of core	→	96% Accuracy, 57% Specificity



Core Logging Automation

Partner Through the Process

LithologIQ is built around a complete workflow that helps exploration teams from raw core to informed action:

1. **Scan:** High-speed capture of spectral and visual data
2. **Analyze:** Automated extraction of geological features using AI
3. **Interpret:** Interval tagging, structure detection and alteration zoning, model-ready
4. **Data:** Standardized outputs ready for direct use in geological software
5. **Integrate:** Seamless compatibility with 3D modeling platforms and exploration tools
6. **Monitor:** Real-time KPIs, QA/QC, and geometrical metrics across drilling campaigns
7. **Deliver:** Enables confident decisions on drilling, sampling, budgeting, and resources

By accelerating geological understanding, LithologIQ empowers teams to build orebody knowledge earlier and make better decisions while drilling is still in progress.

LithologIQ Complete Solution

Conclusion

At LithologIQ, we work as partners with our clients throughout the entire process. From the moment core samples are scanned to analyzing the data, interpreting the results, and delivering clear, actionable insights

High Throughput

2,000 m/shift Scanning

Fast Data Delivery

24 hr. Turnaround Time

No Data Training

No Site-Specific Algorithm

On-Site Mineralogy

Offline Data Processing

Core Shack Workflow

Automation Compatible

Cost Reduction

Rapid Return on Investment

Mobile Core Scanning Solution

Connecting Rock Properties to Value Drivers

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VP, Growth

www.lithologiq.ca