# corescan
Powered by Epiroc

# HYPERSPECTRAL CORE IMAGER
## Core Photography - Mineralogy – Geotechnical

| MODEL | APPLICATIONS | | | SPECTRAL RANGE | | RESOLUTION | | PIXELS | | PHOTOGRAPHY | | 3D PROFILER | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCI-3.2 | PHOTOS | MINERALOGY | GEOTECH | VNIR | SWIR | 4nm | 2nm | 500um | 250um | 50um | 25um | 500um | 50um |
| HCI-4.1 | PHOTOS | MINERALOGY | GEOTECH | VNIR | SWIR | 4nm | 2nm | 500um | 250um | 50um | 25um | 500um | 50um |
| HCI-4.2 | PHOTOS | MINERALOGY | GEOTECH | VNIR | SWIR | 4nm | 2nm | 500um | 250um | 50um | 25um | 500um | 50um |

## Core Scanning

The logging and analysis of core is one of the most important aspects of a drilling program. Corescan's services are designed to integrate closely with the drilling program, delivering comprehensive and consistent mineralogical information to the geology team, improving core logging and enhancing geological models.

Corescan's Hyperspectral Core Imager (HCI) provides a rapid and consistent solution to obtaining continuous, high resolution mineralogy across a wide range of materials including drill core, chips, cuttings, soils and hand samples.



## System Overview

Corescan's HCI system integrates hyperspectral imaging (mineralogy), high resolution RGB images (photography) and 3D surface profiling (morphology) to identify mineralogical assemblages and map surface structure, delivering advanced geological models for greenfield exploration, through to ore processing and mine optimization.

All systems incorporate proprietary spectrometers, sensors and automation systems that have been optimised for use across a range of ore deposit types, and engineered to withstand the demands of remote site operations.

Operating across the VNIR and SWIR spectrum with a resolution of 4nm / 2nm, the HCI's spectrometer samples the core surface at 500µm / 250µm pixel resolution, collecting more than 200,000 / 900,000 spectra per metre. HCI's wavelength range covers key spectral regions in which a wide range of primary mineralogy and hydrothermal alteration minerals exhibit spectral absorption features.

A three CCD RGB camera complements the hyperspectral mineralogy with high resolution core photography at 50µm / 25µm resolution, and a 3D surface profiler scans the core providing morphological information at 500µm / 50µm resolution.

HCI-4's enhanced sensors and processing software also delivers an advanced solution for the acquisition and calculation of a comprehensive range of geotechnical parameters including fracture orientation and characteristics; RQD and wall rock mineralogy.

**corescan.com.au**
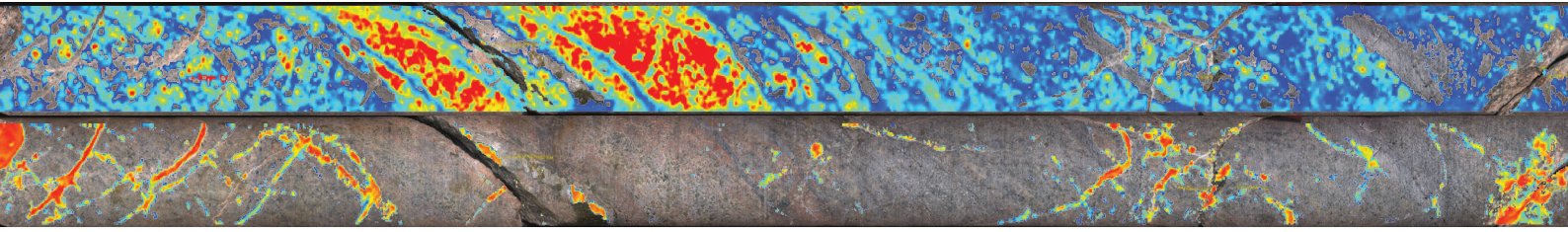
## Mobile Laboratories

Corescan operates a fleet of HCl-equipped mobile laboratories delivering turnkey, onsite, scanning and processing services. Our onsite laboratories can be integrated into your core logging workflow with mineralogical information delivered directly to your geological model. From small scale characterisation studies through to larger, production scale, real-time operations, Corescan can deliver a solution to best serve your core scanning needs.

## Contact Us

Corescan has offices located in Australia, Chile, Peru, Argentina, Mexico, USA, Canada, and the UK, and is headquartered in Perth, Australia.

**E:** info@corescan.com.au

**T:** +61 8 9277 2355

## System Specifications

|  | HCl-3.2 | HCl-4.1 | HCl-4.2 |
|---|---|---|---|
| **RGB Photography** | | | |
| Spatial resolution | 50µm | 25µm | 25µm |
| Colour depth | 24bit | 24bit | 24bit |
| Colour mode | 3 x CCD | 3 x CCD | 3 x CCD |
| Sensor type | Frame scan | Line scan | Line scan |
| **3D Profiling** | | | |
| Spatial resolution | 500µm | 50µm | 50µm |
| Height resolution | 20µm | 15µm | 15µm |
| **IR Spectrometer** | | | |
| Sensor type | Imaging | Imaging | Imaging |
| Spatial resolution | 500µm | 500µm | 250µm |
| Spectrometer modules | 3 | 3 | 3 |
| Cooling systems | Peltier | Peltier | Peltier / Stirling |
| Spectral range – VNIR (nm) | 450 – 1,000 | 450 – 1,000 | 450 – 1,000 |
| Spectral range – SWIR (nm) | 1,000 – 2,500 | 1,000 – 2,500 | 1,000 – 2,500 |
| Spectra per metre (1000mmx60mm) | 240,000 | 240,000 | 960,000 |
| **General** | | | |
| Data volume per metre | 350Mb | 400Mb | 5,000Mb |
| Core tray length (max) | 1,550mm | 1,550mm | 1,550mm |
| Core tray width (max) | 600mm | 600mm | 700mm |
| Supports material weighing | – | – | Yes |
| Sample weight range | – | – | 35kg |
| Sample weight resolution | – | – | 200g |
| Scanning speed | 10mm per second | 25mm per second | 20mm per second |
| Supports pass-through workflow | – | – | Yes |
| System net weight | 1,500kg | 1,500kg | 2,600kg |

* Errors and omissions accepted