



The CoreScan II is a portable digital imaging unit developed specifically for drill core image acquisition, storage and evaluation, capturing full colour pictures in either full circumference or cross section.

**MOBILE – SCAN ON SITE**

**ULTRA – HIGH RESOLUTION**

**ELIMINATE COSTLY CORE STORAGE**

**SOIL, ROCK, MASONRY AND CONCRETE CORES**

**FULL CIRCUMFERENCE OR CROSS SECTIONAL SCAN**

**EASILY ACCESSIBLE DIGITAL CORE LIBRARY**

**REDUCE OR ELIMINATE GROUND CONDITIONS CLAIMS**



The CoreScan II is a portable digital imaging unit developed specifically for drill core image acquisition, storage and evaluation. Cores are scanned at a speed of 1 to 1.5 m/minute and single core lengths of up to 1.5m can be accommodated. Core diameters between 30mm and 150mm can be scanned using circumferential mode or up to 250mm in cross section mode.

Images can be recorded at resolutions between 5 pixels/mm and 40 pixels/mm and can be stored as BMP, TIFF or JPEG files. Typically a single DVD will store about 200m of 102mm diameter core in BMP format at 10 pixels/mm resolution, slabbed mode.

## REAL TIME DATA ACQUISITION

The CoreScan II system consists of an acquisition unit and a sophisticated suite of evaluation software. Operating the fully integrated, portable stand-alone scanner with an embedded PC and high-resolution colour camera, rotary drilled cores of rock or soil may be scanned on site immediately as they are recovered.

Documenting cores in this manner leads to the establishment of a site specific digital core library, which may be accessed by the project team worldwide via the internet. Building an electronic library of core using CoreScan II negates the costly and time consuming process of physical site storage and post site storage of core samples.

## APPLICATIONS

- Ground investigation projects for:
  - Geotechnical applications
  - Tunnelling projects and schemes
  - Geothermal energy projects
  - Radiological waste repositories
- Exploration and deep drilling projects for:
  - Oil, Gas and Coal deposits
  - Industrial mineral deposits
  - Deep underground storage facilities for oil and gas
- Private and Public Sector scientific research projects
- Calibration of geophysical borehole measurements

## SOFTWARE

Three powerful software applications are available. Their major functions include the management and organisation of scanned images, analysis, structural evaluation and presentation, plus the option of evaluating and quantifying the petrographical properties of scanned cores.

The system allows geological structure analysis and lithofacies characterisation and assists in determination of geotechnical parameters. It provides high resolution images in true colour depicting lithological and structural properties almost immediately using the sophisticated suite of evaluation software.

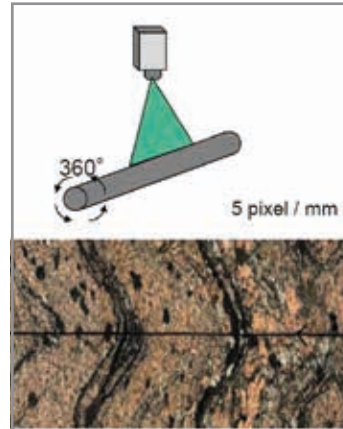


Core samples are a fundamental data source for obtaining information on the geological character of strata or the composition of construction materials.

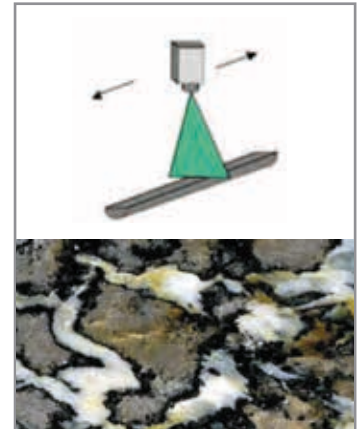
## METHOD AND PROCESS

### CIRCUMFERENTIAL (360°) CORE ROTATION MODE

Full diameter cores are rotated 360° around their cylindrical axis while the line-scan camera, positioned parallel to the axis of rotation, captures the surface image.



▲ Unrolled image of the core mantle



▲ Surface image of the slabbed core

## CROSS SECTION (SLABBED) SURFACE MODE

Cross sectional or 'slabbed' cores are scanned along the length of the split or sawn cross sectional surface. The camera is positioned perpendicular to the core axis and moves along the length of the core sample capturing the image.

If the integrity of the core is insufficient to allow use of circumferential mode the upper half of the cylindrical core surface may be scanned using surface mode.

Even loose, uncemented, soft and friable deposits can be scanned, either within the split core-barrel liner using a method developed by Soil Engineering or, if desirable, without removal from the core box.



## FUNCTIONS AND ADVANTAGES

- Portable-scan on site
- Ultra-high resolution up to 40 pixels/mm
- Soil, rock, masonry and concrete cores
- Full circumference or cross sectional scan
- Digital core library accessible to global project team
- Eliminate costly long-term physical core storage, huge cost saving against conventional core storage
- No physical/chemical deterioration unlike the original cores
- Reduce/eliminate ground condition claims
- Quality Management and Assurance
- Analysis and Structural Evaluation
- Derivation of Geomechanical Properties
- Grain size distribution and porosity analysis