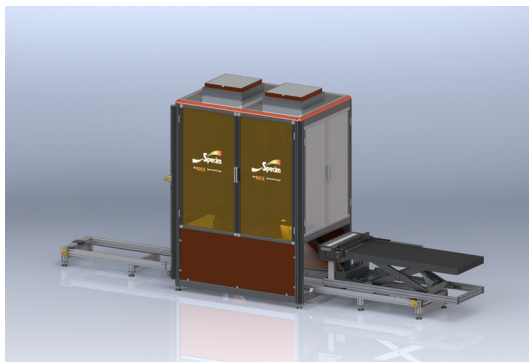


# sisu **ROCK** *Hyperspectral Core Logger*

SisuROCK is the next generation step in the drill core logging. This workstation acquires data from hundreds of meters of core per day without any sample preparation. Acquired hyperspectral imaging data can be turned into consistent and objective mineral maps along the core and across the site.



### Key benefits

- Turnkey hyperspectral drill core imaging
- Objective and consistent data wherever you are
- Creates digital and remotely accessible image library
- No sample preparation required
- Data acquisition required only once
- High speed production-like instrument for large scale projects
- Built-in data QA/QC routines
- Versatile tool for industry and geological research
- Thermal imaging available

### Performance specifications

	SWIR	VNIR	RGB	LWIR-HS	LWIR-C
Spectral range	970 – 2 500 nm	400 - 1 000 nm	Not applicable	8 - 12 μm	8 - 12 μm
Number of spectral bands	256	96 (8 x binning)	3	30	84
Spectral resolution	10 nm	2.8 nm	Not applicable	400 nm	100 nm <sup>1)</sup>
Pixel size on target <sup>2)</sup>	HR: 0.2 mm	HR: 0.09 mm	HR: 0.016 mm	HR: N.A.	HR: N.A.
	HS: 2.0 mm	HS: 0.64 mm	HS: 0.16 mm	HS: 1.7 mm	HS: 1.7 mm
Number of pixels / image line across image	320	1000	4 000	384	384
Scan rate	HR: 20 mm / s	HR: 15 mm / s	HR: 20 mm / s	HR: N.A.	HR: N.A.
	HS: 200 mm / s	HS: 110 mm / s	HS: 200 mm / s	HS: 100 mm / s	HS: 170 mm / s
Scan time for single core box <sup>3)</sup>	15 s	20 s	15 s	22 s	17 s
Max sample size	1 500 x 640 x 200 mm (L x W x H), 50 kg				
System dimensions	5 490 x 1 394 x 2 504 mm (L x W x H)				
Overall system weight	~ 500 kg depending on camera configuration				
Cooling requirements	No external cooling required. Air conditioned room recommended.				
Operating conditions	Laboratory type environment. Small amount of dust accepted.				
Operating temperature	0 to +40°C, non-condensing				
Operating voltage	110 to 220 V and 50/60 Hz clean power supply				
Output data format	BIL file format, ENVI/Evince compatible				
Instrument calibration	Spectrally calibrated data. Normalization		White balance	Spectrally calibrated data. Normalization	

<sup>1)</sup> Diffraction limited

<sup>2)</sup> HR stands for High Resolution mode for single core channel measurement. HS stands for High Speed mode for full core box measurement, width 65 cm.

<sup>3)</sup> 1.5 m long core box. Including calibration measurements.

## Mineral identification on different wavelength ranges

	Silicate structure	Mineral Group	Example	VNIR	SWIR	TIR / LWIR Response	
Silicates	Inosilicates	Amphibole	Actinolite	Non-Diagnostic	<b>Good</b>	Moderate	
		Pyroxene	Diopside	<b>Good</b>	Moderate	<b>Good</b>	
	Cyclosilicates	Tourmaline	Elbaite	Non-Diagnostic	<b>Good</b>	Moderate	
	Nesosilicates	Garnet	Grossular	Moderate	Non-Diagnostic	<b>Good</b>	
		Olivine	Forsterite	<b>Good</b>	Non-Diagnostic	<b>Good</b>	
	Sorosilicates	Epidote	Epidote	Non-Diagnostic	<b>Good</b>	Moderate	
	Phyllosilicates	Mica	Muscovite	Non-Diagnostic	<b>Good</b>	Moderate	
		Clay Minerals	Chlorite	Clinochlore	Non-Diagnostic	<b>Good</b>	Moderate
			Illite		Non-Diagnostic	<b>Good</b>	Moderate
	Tectosilicates	Feldspar	Orthoclase	Non-Diagnostic	Non-Diagnostic	<b>Good</b>	
Albite			Non-Diagnostic	Non-Diagnostic	<b>Good</b>		
Silica		Quartz	Non-Diagnostic	Inferred	<b>Good</b>		
Non-Silicates	Carbonates	Calcite	Calcite	Non-Diagnostic	Moderate	<b>Good</b>	
		Dolomite	Dolomite	Non-Diagnostic	Moderate	<b>Good</b>	
	Hydroxides	Gibbsite	Gibbsite	Non-Diagnostic	<b>Good</b>	Moderate	
	Sulphates	Alunite	Alunite	Moderate	<b>Good</b>	Moderate	
		Gypsum	Gypsum	Non-Diagnostic	<b>Good</b>	<b>Good</b>	
	Borates	Borax	Borax	Non-Diagnostic	Moderate	TBD	
	Halides	Chlorides	Halite	Non-Diagnostic	TBD	TBD	
	Phosphates	Apatite	Apatite	Moderate	Non-Diagnostic	<b>Good</b>	
	Hydrocarbons	Bitumen	Bitumen	TBD	Moderate	TBD	
	Oxides	Hematite	Hematite	<b>Good</b>	Non-Diagnostic	Non-Diagnostic	
Spinel		Chromite	Non-Diagnostic	Non-Diagnostic	Non-Diagnostic		
Sulphides	Pyrite	Pyrite	Inferred	Non-Diagnostic	Non-Diagnostic		

Table courtesy of Dr. Phil Harris, GeoSpectral Imaging

## SisuROCK dimensions

