

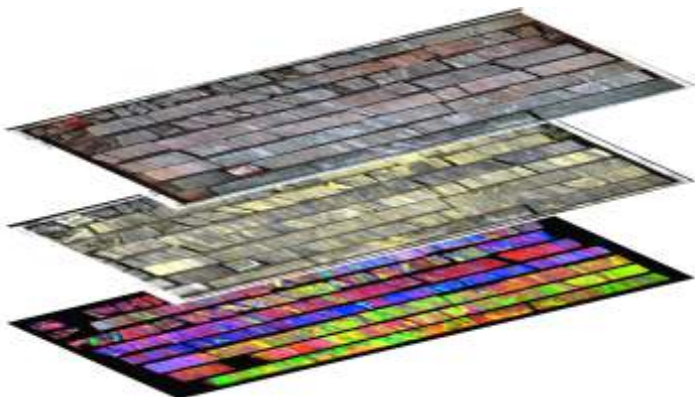
## Overview of Core Imaging Products

### Core Imaging Product Types

Different products can be produced from infrared core imaging data. These products assist in the evaluation and validation of information from the drill core. The hyperspectral data is information rich producing various products to assist the geologist in further interpretation, exploration and understanding of the drill core. Many different products can be generated from the infrared core image data to fulfill a variety of interpretation and data exploration applications. There are basically two product formats that can be produced from the core imaging. These are image and digital product formats.

The core imaging data provides valuable textural information that is important in understanding the geological context of the spectral-mineralogical information. The visual impacts of the data are important in understanding spectral-mineralogical relationships. These images are data sets that can be viewed alongside the geological log or other data from the core, and provide an exact replicate of the core, illustrating spectral-mineralogical variation.

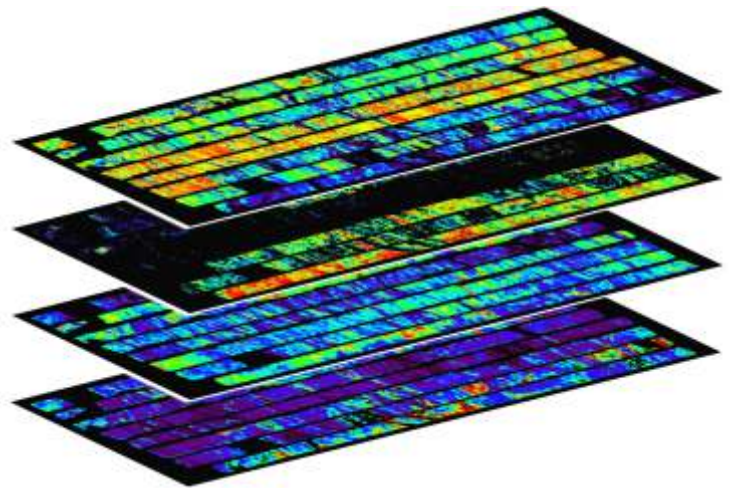
The data sheets typically include XYZ information, with depth information and the extracted spectral information, as a series of parameters or values. The values need to be extracted from the raw or processed data (e.g. class image) and provided as a number. The depth reading is generated at the resolution of a single line of core image data, providing the highest resolution possible from a depth perspective. The results can be generated at selected intervals to match other logging data from the same drill core sections. This information can also be integrated into any modeling software package where depth intervals can be selected by the user depending on the application. Table 1 outlines the types of product types.



*Examples of Colour Image Products.*

### Colour Images

Colour images provide a picture of the core box or geological material. This could be a true colour image of the core if the image data covers the visible region. False colour composites of the core imaged are often generated from the infrared data. The colour images provide a base image on which further geological mapping and logging can be undertaken. They provide a direct link from the spectral data back to the drill core. Enhanced images use the added spectral band data to highlight spectral contrast across the image. These are false colour composites discriminating regions in the drill core image, which provide visual representations of changes in the drill core that aid visual discrimination of material or zones.



*Examples of Spectral Processing Image Products.*

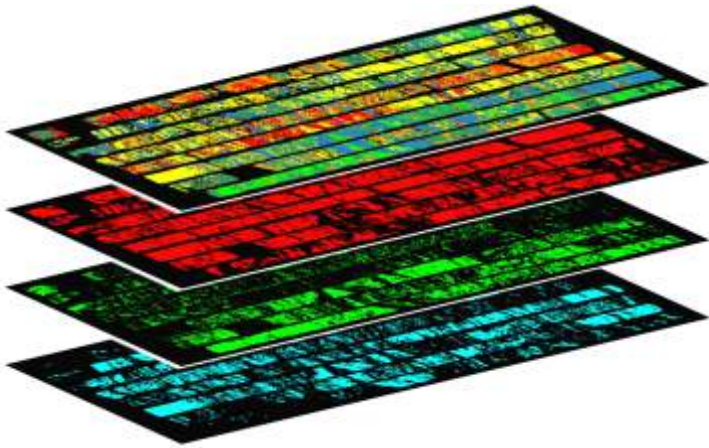
### Spectral Processing Products

Spectral feature images are intermediate products generated from the spectral processing, and they provide detail on the changing spectral signatures in the drill core. These images are generated in many different ways, and their results are accurate, representing the data result from a mathematical process. They relate to the spectral data and do not carry geological interpretation information. End member distribution images provide a probability distribution of the mineral of interest across the image. Spectral index images allow spectral processing parameters to be monitored that highlight spectral variation in the imagery. These products are used in modeling or in the generation of geological interpretation images of the data. They provide visual displays on spectral changes but the content can be queried and used for further processing.



## Spectral Interpretation Products

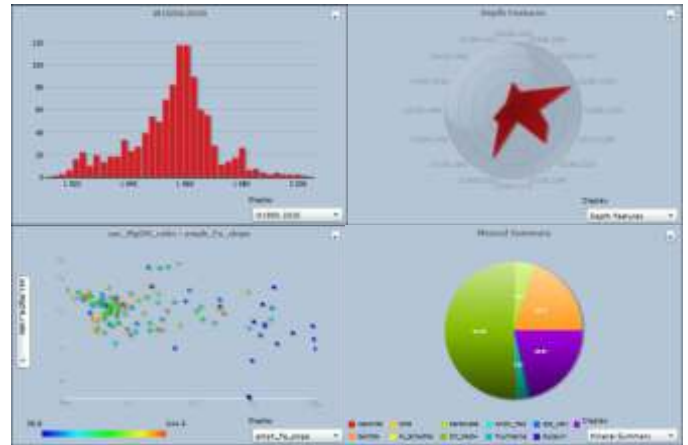
Spectral interpretation images add geological content to the mapped zones in the core image data. Spectral features, parameters or processing products are used to interpret the mineralogy. The mineral maps can be represented as the presence of minerals, mineral assemblages or mineral dominance maps. Mineral indices are used to map zones or changing mineral parameters across the drill core. Mineral changes are mapped by changing mineral compositions, crystallinity or mineral other mineral parameters. These images are used in correlation to the geological material so that geologists can explore the significance of these occurrences.



Examples of Spectral Interpretation Image Products.

Summary of Spectral Processing Products.

Products	Product Types	Image/File Types
<b>Image Data</b>	<ul style="list-style-type: none"> <li>• Colour Images</li> <li>• Natural colour images</li> <li>• False Colour Composites</li> <li>• Enhanced Images</li> </ul>	<ul style="list-style-type: none"> <li>• Colour/greyscale images</li> </ul>
	<ul style="list-style-type: none"> <li>• Spectral Processing Products</li> <li>• Feature Extraction Images</li> <li>• End Member Distributions</li> </ul>	<ul style="list-style-type: none"> <li>• Distribution images</li> <li>• Classification images</li> <li>• Threshold images</li> <li>• Thematic images</li> </ul>
	<ul style="list-style-type: none"> <li>• Spectral Interpretation Images</li> <li>• Mineral Presence Maps</li> <li>• Dominant Mineral Maps</li> <li>• Mineral Assemblage Maps (Spectral Facies)</li> <li>• Mineral Indices</li> </ul>	<ul style="list-style-type: none"> <li>• Classification images</li> <li>• Threshold images</li> <li>• Thematic images</li> </ul>
<b>Digital Data</b>	<ul style="list-style-type: none"> <li>• Mean Data</li> <li>• Spectral Features</li> <li>• Mineral Indices</li> </ul>	<ul style="list-style-type: none"> <li>• Depth Interval Data</li> </ul>
	<ul style="list-style-type: none"> <li>• Count Data</li> <li>• Mineral count/presence</li> <li>• Assemblage count/presence</li> </ul>	<ul style="list-style-type: none"> <li>• Depth Interval Data</li> </ul>
	<ul style="list-style-type: none"> <li>• Statistical Data</li> <li>• Histogram information</li> <li>• Data statistics</li> </ul>	<ul style="list-style-type: none"> <li>• Interval Data</li> </ul>



Examples of Summary Plots for the Digital Products.

## Digital Data

Digital Data is produced from the imagery in a manner that allows further exploration and integration of the data results. This allows the core imaging results to be integrated with other drill core data and utilised in further visualisation and interpretation. Digital data can be a mean value, a count value or even a statistical result at or across selected depth intervals. Depth or log plots of the digital data are generated and viewed in comparison with the image data down the hole. Summary plots across selected intervals (i.e. lithology) allow the data to be compared statistically within the project.

