

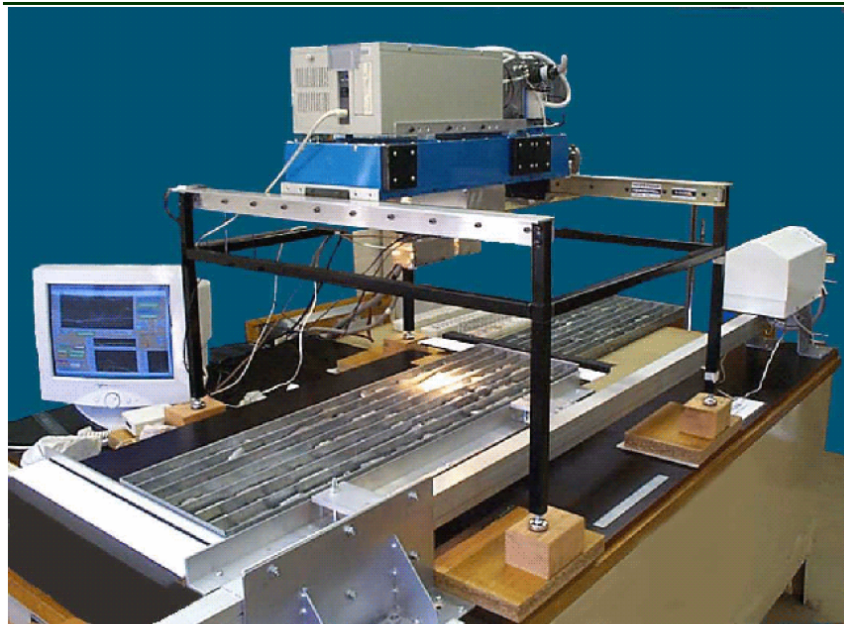
Project 2005-8: Optimisation of drill data

Project **2005-8** was a feasibility study aiming to review the currently available tools on the market and their characteristics in order to increase the acquisition and optimisation of drill data.

Diamond drilling is often the biggest expense of a mineral exploration program. During an ambitious drilling campaign, several thousand metres of core can be generated. Yet, data obtained from the core is often limited to qualitative descriptions by one or several geologists and to chemical analyses, usually for elements related to the mineralisation.

However, it is possible to obtain more information – often quickly and relatively inexpensively – by measuring several physical, chemical or mineralogical properties of the drill core. Among the physical properties that can be measured using portable instruments (that is to say, small, lightweight, robust and battery operated), include electric conductivity, magnetic susceptibility and gamma radiation. These three parameters are particularly useful to know when planning and/or interpreting geophysical surveys (EM, magnetometry, radiometry).

This project compares several devices for each physical property and discusses possible applications of the measurements using case studies (“unconformity”-type uranium deposits, magmatic nickel deposits and mesothermal gold deposits). The types of devices documented include infrared spectrometer (e.g. PIMA), high resolution digital camera (e.g. Hylogger), portable XRF analyser and finally optical core-scanner (CoreScan).



Example of a tool for mineral determination by automatic hyperspectral analyse, the HyLogger developed by the Mineral mapping technologies Group, CSIRO in Australia.

Summary: Project 2005-8	
Objectives	<ul style="list-style-type: none"> To define new methods or strategies to optimise the interpretation of drill data.
Results	<ul style="list-style-type: none"> Inventory of commercial products for determining the various physical properties of the drill core and for describing the characteristics of these instruments.
Note	<ul style="list-style-type: none"> Project carried out by Pierre-Simon Ross