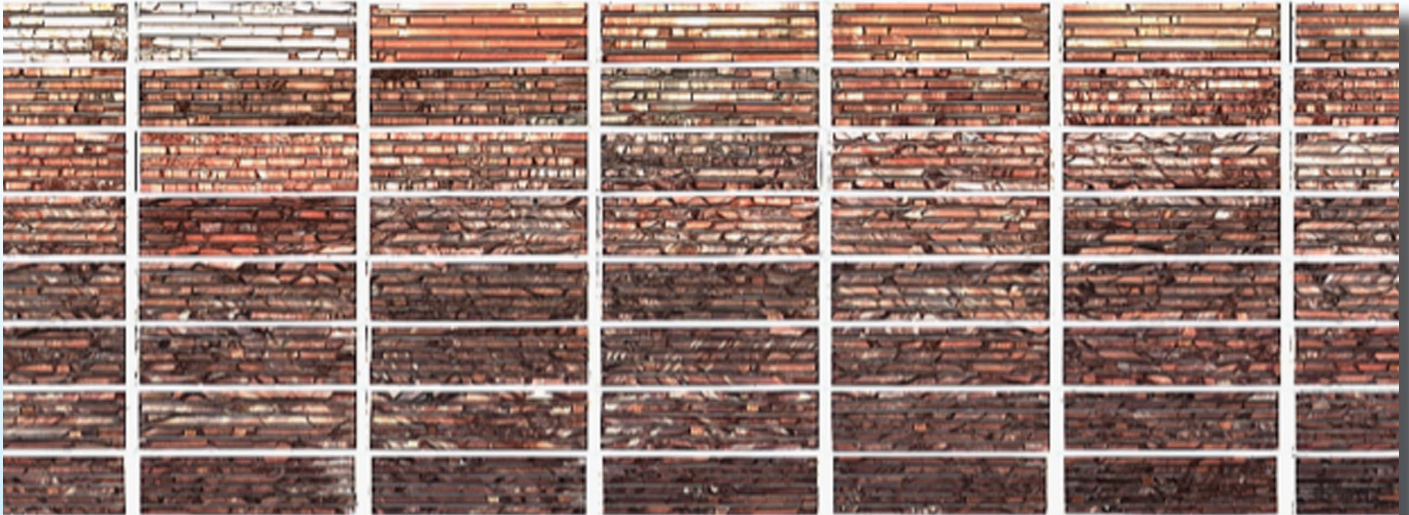




National Virtual Core Library

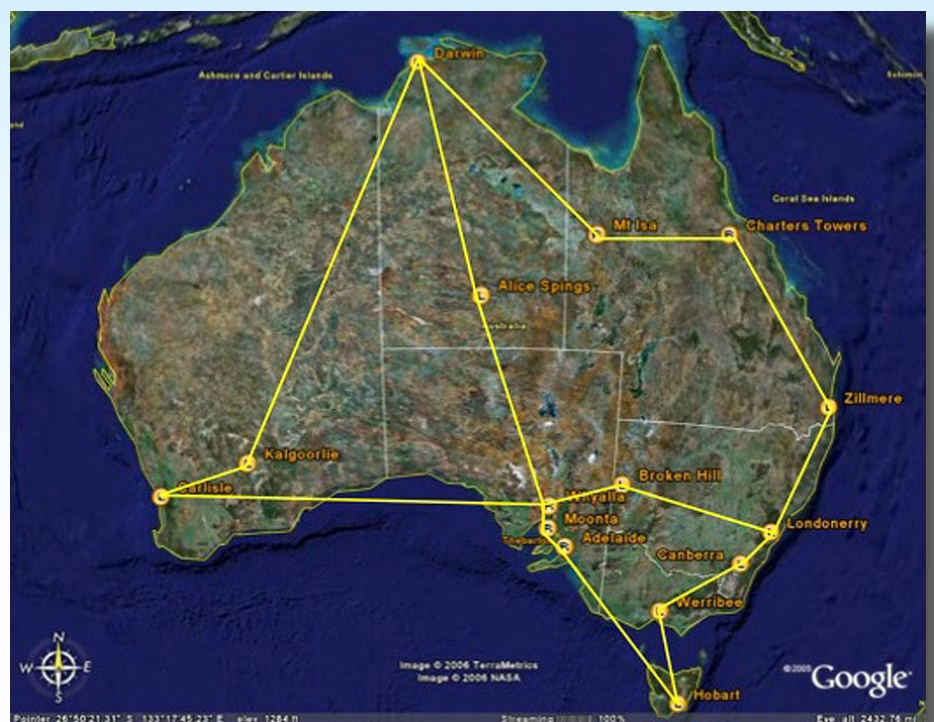


The AuScope National Virtual Core Library will initiate an innovative earth science research network building a high resolution picture of the mineralogy and composition of the upper 1-2 km of the Australian continent. This will be based on the huge and rich legacy of drill samples already held, and still to be acquired, by State and Territory Surveys and industry in the future. It will build future knowledge on past endeavours, and continue this into the future to minimise further duplication.

The infrastructure to be built and deployed in this project will consist of seven of CSIRO's robotic, automated spectroscopic core logging machines (HyLoggers™) in each of seven nodes housed in each State and Territory Geological Survey. Each robotic instrument

will consist of sensitive visible and infrared spectrometers, a very high resolution digital camera, laser profilometer, robotic x/y table, power supplies, lighting, and a control and data management computer. The HyLogging™

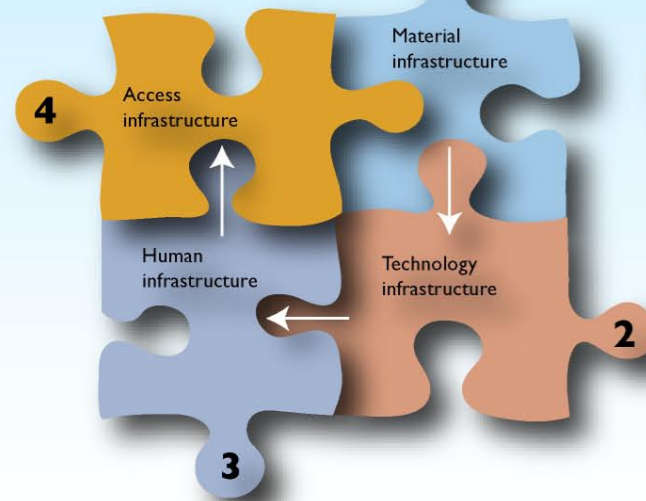
systems are being built with NCRIS and CSIRO funds. Each State or Territory Geological Survey will either own or lease one of these HyLoggers, maintain them and provide operational staff as their co-investment in this project.



AuScope and its partners are creating a National Network of Virtual Core Libraries

AuScope - bringing all the pieces together for a stonger research community

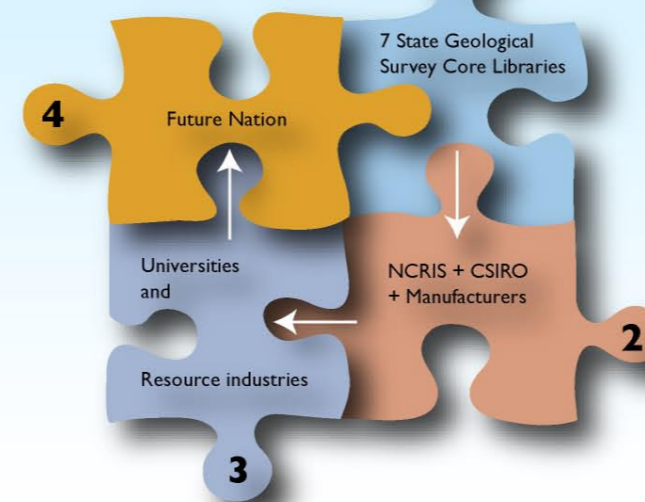
National Virtual Core Library (NVCL) Infrastructure



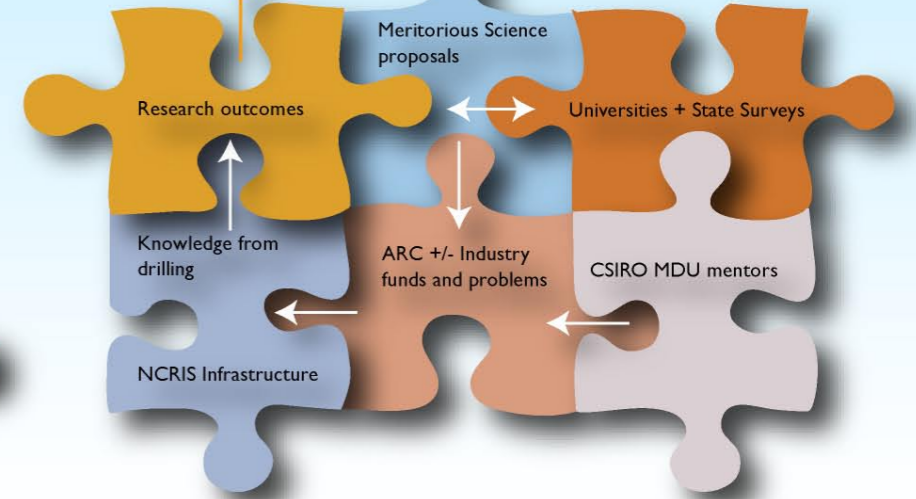
The facilitating building blocks



Networking the collaborative capabilities



Collaborative and embedded research programs, MSc, PhD or Post Doc levels as appropriate



Requests for research access should be directed to the NVCL custodian in each Geological Survey. Donations of scanned cores from the private sector are also invited and will augment the value

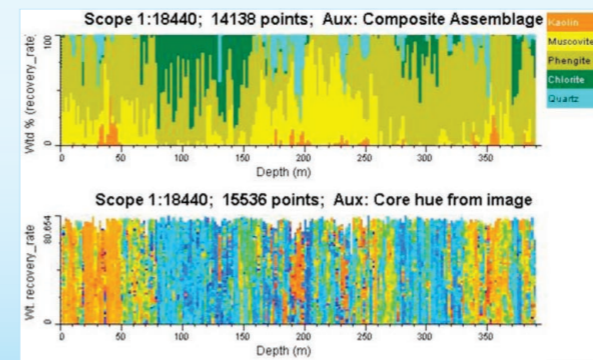
of the growing database of earth composition knowledge for future generations. Prioritisation of cores to be scanned will be made on the basis of creating representative transects through important

metalogenic provinces and mineral deposits, and to support research being undertaken in other AuScope components.

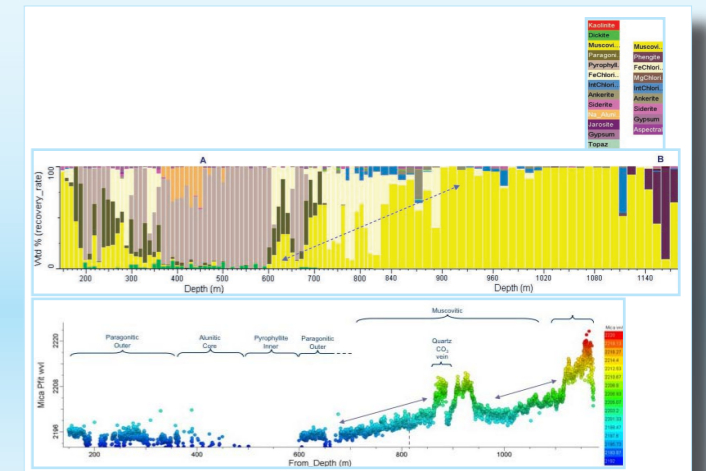
Each NVCL HyLogger will be supported by CSIRO-developed software known as TSG-Core™ (www.thespectralgeologist.com) for the processing, analysis, visualisation and generation of information products. These will also comprise a part of the knowledge infrastructure and form the basis of future research. Semi-quantitative descriptions (geocoded digital tables, graphs and multiple resolution images) of the mineralogical composition of drill cores and drill chips will be stored in web-accessible relational databases and published via the AuScope Discovery Portal. Copies of the processed TSG drill-hole files will also be available upon application to each Survey NVCL custodian.

AuScope - Discovering what you cannot see

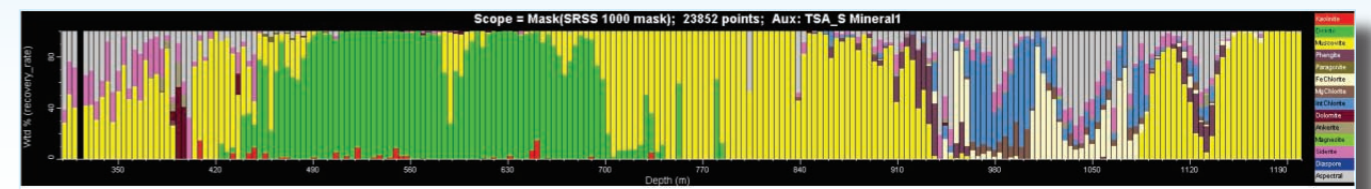
In a great majority of the cores scanned we are finding new geological knowledge. These images illustrate examples from the NVCL Pre-Cursor program.



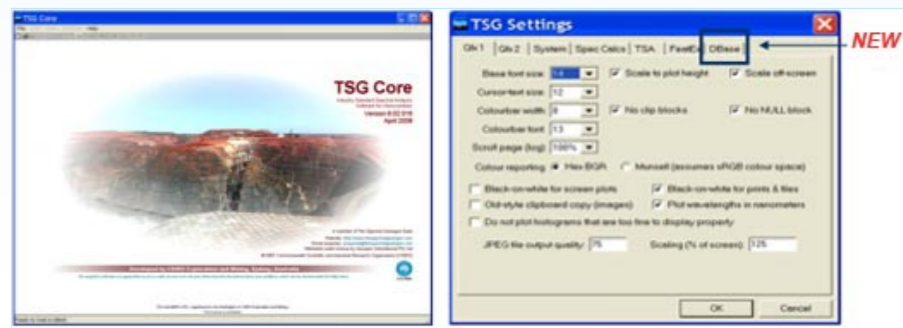
Ballarat East, Victoria. How boring are my turbidites? Not at all!



Glen Lyle Tasmania. Widespread topaz and pyrophyllite alteration and variable footwall mica chemistry.

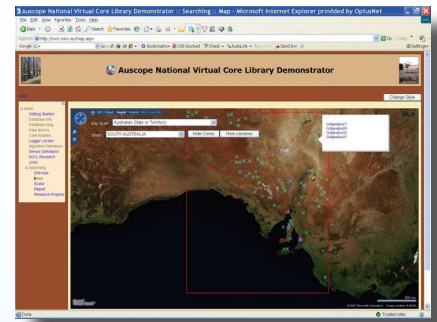


Emmie Bluff - South Australia - 250 metres of previously undocumented stratabound ?? Dickite in the cover.

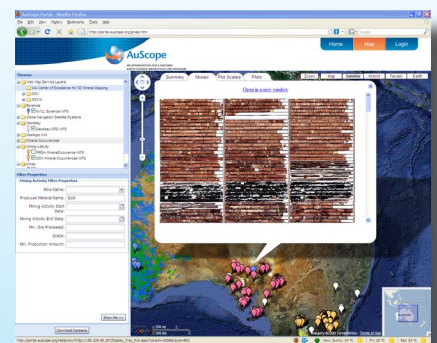
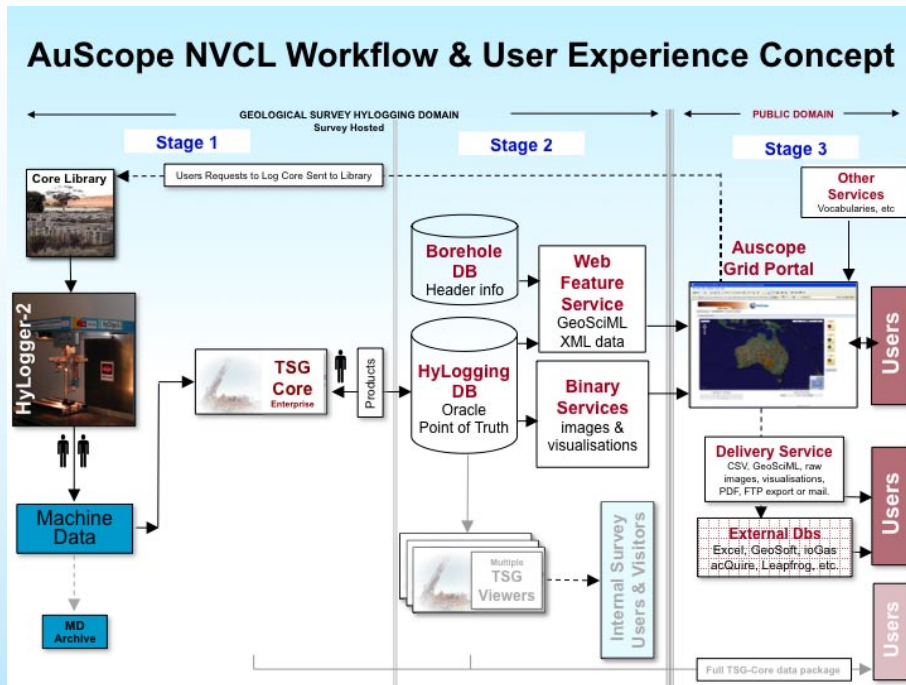


NVCL Demonstrator and AuScope Discovery Portal

A demonstration web site is available at <http://nvcl.csiro.au> and the AuScope Discovery Portal can be viewed at <http://portal.auscope.org/gmap.html>. Feedback is welcomed. Meritorious student projects utilising the infrastructure, or the collected data, are strongly encouraged.



NVCL Demonstrator



AuScope Discovery Portal

Accessing the National Virtual Core Library

For more information on current and potential projects or accessing AuScope's National Virtual Core Library infrastructure for a project of your own please contact the Program Director or your State Survey NVCL Representative.

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Organisation links

<http://portal.auscope.org/gmap.html>

<http://nvcl.csiro.au>

<http://www.thespectralgeologist.com>

<http://www.csiro.au/csiro/content/standard/ps1y6.html>