Interactive processing of mineral resource and occurrence data by Web users

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Scientists in AGSO's Mineral Resources & Energy Program (formerly part of the Bureau of Resource Sciences) have developed a minerals and energy resources and locations information system — MINERALIS — which provides interactive facilities via the intranet for AGSO's resource geologists. A proposal to make it accessible to other users via the Internet is currently being developed.

MINERALIS is a second-generation database developed from two databases that AGSO initiated a decade ago: MINLOC (mineral occurrence locations) and MINRES (mineral resources), which were publicly released in October 1990 and February 1996 respectively. Integrating them in 1997–98 has facilitated streamlined data entry, processing, and reporting.

Development of MINERALIS with new Internet technologies and Oracle version 8 began in late 1997. Database specialists and users reviewed MINRES and MINLOC, and eliminated non-core attributes before they designed and coded the system. MINLOC and some MINRES data were then transferred to MINERALIS for user acceptance testing before the system was released for internal use in November 1998. Mineral occurrence and resource data for the current year are now being entered.

As well as facilitating the entry, maintenance, and reporting of mineral occurrence and resource data, MINERALIS can also do complex calculations to meet AGSO's particular requirements, and tasks that were too difficult and/or too time-consuming for its parent databases. Now, using MINERALIS, resource geologists can routinely process industry data, so as to separate contained reserves from resources and allocate national resources according to AGSO classification criteria at levels of accuracy and consistency not always achievable before. MINERALIS also introduces an advanced reporting capability that tracks reasons for change in national resource inventories. This facility allows experienced users to make the incisive analyses needed — for example — for AGSO's input to national resource accounting carried out by the Australian Bureau of Statistics.

AGSO plans to use Web-based GIS and forms-technologies for making mineral occurrence and resource data publicly accessible via the Internet. A start has already been made. Maps showing mineral occurrences and resources are available on the AGSO website at *http://www.agso.gov.au/map/TOC.html* and *http://www.agso.gov.au/ngis/locator.html*. Clients will be able to download the latest MINLOC and MINRES product releases from the MINERALIS home page later this year. The system will give clients online access to the most up-to-date information. These clients in turn could help improve the size and quality of data holdings through interactive data entry facilities via the Internet.

MINERALIS will also be able to link all State departments of mines and AGSO via the Internet. AGSO has discussed with State government colleagues the concept of using MINERALIS to jointly capture and share mineral deposit and occurrence data. The link would offer opportunities to collaborate more closely, develop better data standards, and share data-entry and data-maintenance workloads in these times of downsizing and fast depleting staff resources. Queensland's Department of Minerals & Energy and AGSO are exploring the possibility of connecting a workstation located in the Department to MINERALIS via the Internet.

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