



Over the past 7 years, AMIRA International with the help of over 100 sponsors (mining companies, government organisations and professional societies) from around the globe has been building the foundations of a community world encyclopaedia of ore deposits through its project *Data Metallogenica* (www.datametallogenica.com). There is already an impressive amount of material available on the website (over 6 gigabytes), much of it unique, which is being continuously augmented with new material. DM is self-funding but not-for-profit.

Recent news in the life of DM includes:

New Commodity Galleries

Another new style of data gallery has been added to Data Metallogenica recently. These galleries contain global commodity reviews and will be a significant resource for teachers and students in the future. These compilations can be augmented with detailed data from the individual deposit galleries. The first two examples have now been added to DM:

- **Nickel Laterite** – a comprehensive review of the location and characteristics of nickel laterite deposits from around the world, together with details on regolith profiles and formation, has been provided by Mick Elias from CSA Australia. DM has also received an excellent review report from Inco outlining the geology, resources, processing options and economics of global nickel laterites of past, current and future deposits.
- **PGE** – a global review of the different styles of PGE deposits and their relative importance, contributed by Tony Green of Falconbridge.

These galleries can be located through the “Commodity Presentations” button on the main Search Screen after logging on.

Pot Pourri of New Data Galleries

Through generous donations of data by individuals and companies, new data galleries and other information containing numerous maps, sections and field photos continue to be constructed for major deposits in a range of commodities:

- **Gold**
 - Gosowong, Indonesia – a new epithermal district with continuing new high-grade discoveries in the Halmaheras in eastern Indonesia (including a detailed discovery history)
 - Karangahake, New Zealand – a classic high-grade epithermal deposit from the Coromandel Peninsula, and the first gold mine in the world to use extraction of gold by cyanide solution
 - Maricunga Belt, Chile – including the La Coipa, Refugio, Cerro Casale and La Pepa deposits in this famous Miocene gold belt in northern Chile
 - Palmarejo, Mexico – an historic epithermal Ag-Au vein deposit in Chihuahua, mined originally by the Conquistadores and currently undergoing renewed exploration and development
- **Copper**
 - Kansanshi, Zambia – a new developing copper mine in the famous Central African Copperbelt
 - Frieda River, Papua New Guinea – a well known and significant porphyry copper deposit undergoing continuing assessment in the same belt as Grasberg, Ok Tedi, Panguna and Porgera
 - Ernest Henry, Australia – one of Australia’s largest IOCG deposits
 - Lisbon Valley, USA – a newly developed sediment-hosted deposit in Utah
 - Pebble, USA – a rapidly growing major Cu-Au-Mo porphyry resource in Alaska
- **Uranium**
 - Alligator Rivers Uranium Field, Australia – an excellent review of recent research on one of the world’s greatest uranium districts
 - Valhalla, Australia – one of Queensland’s undeveloped resources
- **Zinc**
 - Lady Loretta, Australia – a small but classic “Sedex” deposit within the world’s greatest zinc repository, the Mt Isa – McArthur Basin
 - Cerro de Pasco & Colquijirca, Peru – two of the world’s largest zinc deposits, classic examples of replacement deposits in carbonates associated with felsic intrusive centres
 - Menninnee Dam, Australia – once thought to be a stratiform deposit in the Early Proterozoic metasediments of the Gawler Craton, Menninnee Dam has since been shown to be an unusual replacement deposit in basement carbonates and related to the emplacement of the Hiltaba Suite granites, coeval with Olympic Dam
- **Nickel**
 - Jacare, Brazil – a discovery history of this significant undeveloped nickel laterite deposit
 - Sudbury, Canada – comprehensive information from this unique but classic giant deposit

New Uranium and Other Spectral Data

Dr Phoebe Hauff of Spectral International Inc, Colorado, USA (www.specmin.com) has over a number of visits to the DM Centre measured selected suites of DM samples using an ASD FieldSpec-Pro VNIR/SWIR reflectance spectrometer. She has kindly provided copies of reports which utilised DM samples. A previous example from the Kopeto nickel laterite deposit in New Caledonia may be found on the web site.

Reports recently loaded from major uranium deposits in Australia and Canada include Midwest Lake (Athabasca Province), Jabiluka and Ranger (Alligator Rivers Province) and Olympic Dam (Gawler Craton). Data from other styles of deposits also received include Round Mountain, Pueblo Viejo, Chambishi, Collahuasi and Island Copper.

A full-text PhD thesis by Mike Hussey from CSIRO has also been added to DM, covering the spectral recognition of alkaline ultramafic rocks such as kimberlites and lamproites.

New Victorian Tender Areas

The Victorian Government is presently offering the exploration rights for the historic gold mining region of Walhalla – Woods Point for tender. Famous former deposits such as Cohen’s Reef, the A1 deposit and the Morning Star formed part of the very rich Victorian goldfields active in the late 19th century – these goldfields formed a key part in the economic development of Australia. A comprehensive data package is available from Geoscience Victoria (www.dpi.vic.gov.au) – key technical data are also available in an extensive set of data galleries in DM.

The Benambra VHMS base metal deposit and surrounding area in northeastern Victoria is also being offered for tender. Benambra was originally discovered by WMC in 1978 and mined by Denehurst from 1992-6. Current booming metal prices have led to renewed interest in the deposit and its surrounding potential. Key technical data on the deposit are available in DM.

Thesis Data on DM

The value of Data Metallogenica as a repository of useful and accessible knowledge for the minerals industry is continually being reinforced. A new and exciting dimension is currently being added to the DM website – full text digital university PhD theses, which are being donated by their authors. Early examples include:

- Textural evolution of the **Hellyer** massive sulphide deposit (Gary McArthur, 1996)
- The setting, geometry and timing of intrusion-related hydrothermal systems in the vicinity of the **Batu Hijau** porphyry copper-gold deposit, Sumbawa, Indonesia (Steve Garwin, 2000)
- Metallogenesis of the **Jales** Au District, Northern Portugal (Diogo Rosa, 2001)
- Geology and genesis of the **Bulyanhulu** gold deposit, Sukumaland Greenstone Belt, Tanzania (Claire Chamberlain, 2003)
- Magmatic and hydrothermal evolution of the **Cripple Creek** gold deposit, Colorado, and comparisons with regional and global magmatic-hydrothermal systems associated with alkaline magmatism (Eric Jensen, 2003)
- Structural and geochemical evolution of the **Rosario** copper-molybdenum porphyry deposit and related copper-silver veins, Collahuasi District, Northern Chile (Glen Masterman, 2003)
- The Upper Critical and Lower Main Zones of the **Eastern Bushveld Complex** (Charlie Seabrook, 2005)
- The geology, timing of mineralisation, and genesis of the **Menninnie Dam** Zn-Pb-Ag Deposit, Eyre Peninsula, South Australia (Mike Roache, 1996) – this intrusive-related deposit is coeval with the Olympic Dam mineralisation event
- Geology and genesis of the **Mammoth** Cu deposit, Mt Isa Inlier, Australia (Darryl Clark, 2003)
- Tectonostratigraphic evolution of the Archaean volcanic-intrusive-sedimentary **Boorara Domain** succession, Eastern Goldfields Superterrane, Yilgarn Craton, Western Australia (Jessica Trofimovs, 2004)
- Magmatic-Hydrothermal Gold Deposits of the **Maricunga Belt**, Northern Chile (John Muntean, 1998)
- Geophysical & GIS applications to **Sediment-hosted Zn-Pb Exploration** (Mark Duffett, 2000)
- Surface detection of **alkaline ultramafic rocks** in semi-arid and arid terrains using spectral geological techniques (Michael Hussey, 1998)
- Geology, geochemistry and genesis of the **El Penon** epithermal Au-Ag deposit, Northern Chile (Ian Warren, 2005)
- The tectono-magmatic evolution of the **Tasman Fold Belt** in NE Queensland, Australia (Ivo Vos, 2005)

This development allows much previously largely unavailable primary data to become accessible to exploration geologists and researchers all over the world. We are very grateful to the contributors for allowing their data to be made available to the global community, and urge other students to consider placing their own theses in DM in the future to add value to their work.

The Gawler Craton – home of the giant IOCGs

The Gawler Craton in South Australia has been the focus of major attention since the discovery of Olympic Dam, and has been reinforced in recent years through the discovery of the exciting Prominent Hill and Carrapateena Cu-Au deposits as well as the Challenger gold mine.

High quality photographs of over 1,000 samples in sixty-two sets of rocks from the Gawler Craton, together with descriptive 'legends', are currently being loaded to the DM website. The samples were collected by Peter Laznicka in 2005 under contract to the Department of Primary Industries & Resources South Australia, in a progressive move to make sample coverage of the State's mineral resources in DM as comprehensive as possible. Newly added deposits of particular interest to explorers include six sets of drill-core samples from Prominent Hill (joining previous sample sets from Olympic Dam), iron ore deposits of the Mt Woods Inlier and Middleback Ranges, together with Challenger Au, Mt Gunson Cu, Menninnie Dam Zn, and many others.

New Canadian Diamond Information

New contributions from BHP Billiton and Mineral Services Canada on several Ekati pipes including Panda, Misery and Koala, and from Barbara Scott-Smith on the characteristics of Canadian kimberlites have been received and loaded on the website.

Australian Geoscience Thesis Database

The Australian Geoscience Thesis Database originated as the brainchild of Professor Allan White and Dr Amarendra Changkakoti, and began as an AMIRA International project P874 in December 2005, and will conclude in mid 2007.

The first part of that project, the listing of all geoscience theses from all Australian universities, including from those departments no longer in operation, has been generously released by the project sponsors to the subscribers of *Data Metallogenica* and will be loaded shortly. Over 10,000 thesis titles are listed. DM will be the beneficial owner of the listing and other future P874 products, and will arrange future annual updates of the listing.

DM is not-for-profit but must be self-funding. Your support is essential for its continued growth.

The primary objectives of Data Metallogenica are to be:

- A primary web portal for "high-level" information on global ore deposits.
- An information source and rock reference base for experienced geologists, analysts and regulators.
- A training resource for younger geologists in companies.
- An education and research resource for students and teachers at universities.
- A permanent and easily accessible repository of much "fragile" and transient data held by individuals and companies – an ultimate world encyclopaedia of mineral deposits.
- A fast integrated link to detailed and supporting quality data sets elsewhere, including commercial providers, government surveys and university research groups.

Please consider:

- [Becoming a web subscriber](#) or [Becoming a sponsor](#)

Apart from providing the necessary financial support for continued growth, your involvement will give you and your colleagues unlimited access from virtually anywhere in the world to a great and growing unique database of real value.

We would welcome your individual or corporate support in becoming part of this great enterprise. The cost is surprisingly low at about \$1 – 2 per week per geoscientist.

Please circulate this email to your colleagues and friends.

Alan Goode
Project Director, Data Metallogenica
AMIRA International (www.amira.com.au)
Level 2, 271 William Street
Melbourne VIC 3000
Australia

Ph: +61 3 8636 9957
Fax: +61 3 8636 9900
Email: alan.goode@amira.com.au



Data Metallogenica – building the global encyclopaedia of ore deposits