



SGGMP

Specialist Group for
Geochemistry, Mineralogy &
Petrology, of the Geological
Society of Australia.

SGGMP Newsletter

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SGGMP Website: <http://sggmp.gsa.org.au>

Newsletter contributions

of any form, including graphics are welcome. Contact
the Editor, preferably by -mail: rbottrill@mrt.tas.gov.au

Report on Recent SGGMP Activities (2004-2005)

1. Sponsorship of two sessions at the 17th AGC in Hobart: Session 2.6 Magmatic ore deposits (co-sponsored with the SGEG) and Session 2.11 The Australian Synchrotron.
2. Organisation and running (along with the SGEG) of a pre-conference workshop on Magmatic Ni-Cu-(PGE) sulfide deposits by Prof Wolfgang Maier, Centre for Research on Magmatic Ore Deposits, University of Pretoria, South Africa.
3. Sponsorship of a 17th AGC fieldtrip in Tasmania: *Cenozoic Basalts and Gold and Granites*
4. Sponsorship of 2 students to attend the 17th AGC in Hobart: Pierre-Alain Wülser (University of Adelaide) and Nicolas Thebaut (University of Sydney).
5. Preparation for the new SGGMP Conference in Pt Macquarie in 2005
6. Preparation for a new Ringwood medal for the best paper in geochemistry, mineralogy or petrology
7. Production of newsletter.
8. Revision of website.
9. Liason with amateur mineralogically-oriented societies in Australia regarding affiliate membership of the GSA.
10. Discussions on participation in an international mineralogical newsletter: *Elements*

Planned Activities For 2005

1. Running the new SGGMP Conference in Pt Macquarie in July
2. Presentation of a new Ringwood medal for the best paper in geochemistry, mineralogy or petrology
3. Production and distribution of newsletters to members in by email and normal mail.
4. Revision of website.
5. Continue discussions on participation with other mineralogical and geochemical societies in the international newsletter: *Elements*

SGGMP Annual Meeting

Minutes by Ian Graham

Held at the Wretpoint Convention Centre, Hobart, Tasmania (In conjunction with the 17th AGC)
Meeting started at: 18:00 10/02/04

Attendees: 10

Item 1: Election of SGGMP Office bearers for the next 2 years.

The following were elected unopposed:

Chairman: Ralph Bottrill, Mineral Resources Tasmania
Treasurer: Dr David Duncan
Secretary: Dr Ian Graham, Australian Museum
Committee: Dr Bruce Schaeffer, Monash University

Item 2: Proposal for a biennial SGGMP conference

This proposal was agreed upon by all present, with a different venue each 2 years (in a different state/territory each time), preferably in a major country township and incorporating a fieldwork component.

A number of possibilities were discussed for the first (i.e. Mount Narryar WA – oldest zircon site on earth, Mount Isa) and Port Macquarie (on the NSW lower North Coast) was decided upon for late June or early July in 2005. It was also decided that:

1. The theme would be a general one encompassing geochemistry, mineralogy and petrology.
2. We would plan this to attract an international audience in lead-up to the Goldschmidt Conference in 2006.
3. We would have to get sponsorship.
4. We would incorporate a student's forum and have a prize for best presentation.
5. There would be social events included (such as winery tours).
6. There would be a fieldwork component (Port Macquarie Block).
7. We would try to get a few keynote international speakers.

In 2007, possibly hold a joint SGGMP-SGEG synchrotron workshop to be held at Monash University, Melbourne, Victoria.

Item 3: SGGMP Ted Ringwood Medal

This proposition was decided upon at the meeting. The medal would be presented at each AGC, in honour of the late Professor Ted Ringwood and would be awarded to an Australian student for best paper in the fields of geochemistry, mineralogy and petrology for the year in the Australian Journal of Earth Sciences.

Item 4: Theme for 18th AGC, Melbourne, 2006.

It was decided upon by all present that we would have a general theme for the 18th AGC, Melbourne, 2006 'New advances in geochemistry, mineralogy and petrology' and have a special symposium (with interaction from other groups) on environmental geochemistry.

Item 5: Newsletter

It was agreed upon that due to the size of the newsletters being generated, it would be best to have it on the website, rather than sent out as separate emails to members.

Item 6: SGGMP involvement with the Goldschmidt conference, Melbourne, Victoria, 27th August to 7th September, 2006.

It was agreed upon that we help with the organisation of this meeting as much as possible either by sponsorship (such as overall sponsorship, sponsorship of fieldtrips, sponsorship of particular sessions) or general support.

Meeting formally closed at 19:20.

Commission On New Minerals And Mineral Names

Annual Activity Report 2004

The CNMMN is the most active of the commissions established under the auspices of the International Mineralogical Association, the body with which the GSA is affiliated via the SGGMP. The Commission has 30 national representatives who vote on batches of new mineral submissions each month. Other issues dealt with are changes to nomenclature, redefinitions and discreditations. The Australian representative on the CNMMN is Dr Allan Pring (Department of Mineralogy, South Australian Museum), while Dr Bill Birch is the CNMMN Secretary.

In 2004, the CNMMN has dealt with 49 new mineral proposals until the end of October. Of these 39 have been approved and the rest are still with the members. The submission rate is slightly lower than last year (2003) when 70 new mineral proposals were handled for the full year.

The list of minerals approved in 2003 has been published by some journals, and is also available from the CNMMN website. Starting in 2004, approved minerals are listed monthly on the CNMMN website. The Commission has now published on its website the IMA list of 3500 minerals approved, discredited and redefined since 1959. Lists of minerals approved over the past few years have also been added to the website.

CNMMN members also voted to approve changes to mineralogical nomenclature involving wagnerite, triplite and zwieselite, with the discreditation of magniotriplite, and a proposal to discredit spodiosite as a mixture.

Two CNMMN subcommittees are discussing nomenclature of the tourmaline and epidote groups, under the chairmanships of Dr Milan Novak and Dr Thomas Armbruster, respectively. Reports have been promised by the end of 2004. Reports of long-running subcommittees on sulfosalts and the pyrochlore group have been submitted recently. A subcommittee on nomenclature in the alunite supergroup, chaired by Peter Bayliss, is also in the early stages of discussion.

The CNMMN held several open meetings at the International Mineralogy and Museums conference in Paris in early September.

For information on the role of the CNMMN, the website www.geo.vu.nl/users/ima-cnmmn/ is recommended viewing.

Report On The 5th International Mineralogy And Museums Conference, Paris, September 2004.

This meeting was the 5th in the series of London (1988), Toronto (1992), Budapest (1996) and Melbourne (2000). They are designed to accommodate museum-based mineralogists whose roles and interests extend across research, the management and development of collections and a range of public programs. The meetings generally attract attendances between about 100 and 200, so they allow for greater individual communication and can be run without the complication of concurrent sessions. As with all international conferences, there is a full add-on program of social activities and field trips (although only an excursion to mineralogical sites and museums in the Alps proceeded, the others on offer being cancelled due to lack of bookings).

The Paris meeting was run between the 6th and 8th of September, with all oral and poster sessions held at the School of Mines, an institution which has taught mining engineering continuously ever since its foundation in 1783. It also has a renowned systematic mineral collection. The technical program was run over three days, under the broad themes of Research, Collection

Management and Society, but within these the talks were very diverse. They were all well-attended by up to 150 registrants altogether, with about 10 from Australia. Abstracts of the presentations can be read on <http://www.ensmp.fr/Fr/Actualites/Agenda/PDF/Recueil-abstracts-MM5.pdf>

The venue for the next M&M meeting will be selected from St Petersburg, Lisbon and Denver.

19th General Meeting Of The IMA

The next meeting of the IMA will be in Kobe, Japan, from July 23–28, 2006. As is customary, this meeting will aim to bring together scientists and researchers in the fields of mineralogy, geochemistry, petrology, mineral deposits and related areas from all over the world to discuss recent progress and future trends. IMA2006-KOBE is being jointly organised by the Mineralogical Society of Japan, The Japanese Association of Mineralogists, Petrologists and Economic Geologists, the Society of Resource Geology and the Science Council of Japan. The Scientific Program will consist of about ten plenary lectures and 40 sessions covering the following fields; Mineral Physics and High Pressure Mineralogy; Crystal Structure; Crystal Growth; Hydrothermal Process and Mineralization; Petrological Processes; Planetary Materials; Environmental and Applied Mineralogy; Mineral Heritage; New Frontiers in Mineral Sciences (synchrotron radiation, neutron sciences, micro-chronology, origin of life, nanomaterials). A very interesting range of field trips is also proposed. A 'first announcement' brochure has been distributed and information is available on <http://www.congre.co.jp/ima2006/>

IMA Commission on Museums

Minutes from the CM Commission Business Meeting, Paris, September 2004

The meeting was held during the M&M5 International Conference 2004 in Paris on Wednesday, September 8th from 8 am to 9 am at the Paris National School of Mines.

12 Commission members or their representatives (r) attended:

France – Lydie Touret (Chairwoman), Germany – Kay Schuermann (Secretary), Switzerland – Nicolas Meisser, Sweden – Per Nysten, Norway – Fred Steinar Nordrum, Australia – Dermot Henry, Canada – Paula Piilonen, Belgium – Herman Goethals, China – Zhuming Yang (r), United States – Anthony Kampf, Netherlands – Ernest Burke (r), Japan – Michiaki Bunno.

Guests included: Monique Brunet – France, Gary Mason – United States, Masahiro Aoki – Japan, H.A. Stalder – Switzerland.

The Chairwoman of the Commission and of the Conference – Lydie Touret – opened the session with some short but hearty words and mentioned around 150 scientists from 26 countries joining the Conference. These figures were very impressive as the date for M&M5 was forced to September by IMA in connection with the earlier date of the IGC Florence.

In addition there was no financial sponsoring of this traditional Conference of CM and CNMMN by IMA. Scientists from the following countries showed up first time at M&M: Albania, Iran, Latvia, and Nigeria.

Paula Piilonen from the Canadian Museum of Nature in Ottawa(Canada), Nicolas Meisser from the Cantonal Museum of Geology in Lausanne (Switzerland), and Herman Goethals from the Royal Belgium Institute of Natural Science in Brussels(Belgium) have been introduced as new members of the commission. The following main topics have been discussed at the business meeting:

CTMS

A final report of the CTMS (Catalogue of Type Mineral Specimens) – work was presented by the retiring chairman of the Subcommittee H. A. Stalder (Switzerland) – The Congo, Australia, and Canada have been added to the national lists. The Commission decided to move the chair of the CTMS Subcommittee to Nicholas Meisser (Switzerland). There will be a free access of the private databases (Hoelzel) by the CM – website.

CM - Website

The CM – website supported by Anthony Kampf (United States) and always nicely updated – www.SMMP.NET/IMA-CM – will additionally open a “general questions – reply” site.

Mineral Heritage for Petrological Sites

The topic “Mineral Heritage for Petrological Sites” initiated by F. Wall (UK) at a former meeting has been postponed because of her absence.

New CM - Officer

The Commission designated Dermot Henry (Australia) as new Secretary to be elected at the Business Meeting(s) during the IMA Conference 2006 in Japan.

IMA 2006

CM will try to sponsor one or two special sessions (possible together with CNMNM) at the IMA Conference 2006 in Japan. First contacts will be established with Masahiro Aoki (Ibaraki, Japan).

M&M6

There have been now 4 invitations for M&M6. In order of receipt:

- St. Petersburg School of Mines (Russia)
- Lisbon University (Portugal)

- St. Petersburg University (Russia)
- Colorado School of Mines (Denver, USA)

The CM Officers will go in contact with all applicants during the next year. A final decision will be made during the Business Meeting(s) at the IMA Conference in Japan 2006.

Open Round Table

Some more information and discussions have been added during an “Open Round Table” topic at the end of the Conference on Wednesday, September 8th, from 5.30 pm to 6 pm.

Under the main title: “Museums – New problems, New Concepts Today?” remarks have been made about

- Museums Current Activities
- Relationship between Museums and Associations
- Public or Private Collections
- Private Micromount Collections and its Connections to Museum Scientists (by M.G. Favreau (France))
- A New Place of Petrology in Mineralogical Museums
- The “Geoplanet Earth Year 2006” sponsored by IGS (look at the IGS Website)
- Use of the Periodical System Symbols as Worldwide Mineral Dictionary for all Languages
- a suspicious “Organisation of Mondial Mineralogy Monaco”, created by a Romanian lady related near to UNESCO. A lot of negative comments have been made and could be handled by Michel Guiraud (France)

October 22nd, 2004

Kay U. Schuermann
(Secretary of the CM)

Australian Journal Of Mineralogy

This biannual journal is aimed at both the serious mineral collector, and professional mineralogists, as with the Mineralogical Record; but the focus is on articles on Australian minerals and localities.

The twentieth edition of this journal (10(2)) is out now, and includes an article on Tasmanian zeolites. Other recent articles include U minerals from Mt Painter, minerals of the Mt Nifty copper mine and Mt Keith Ni mine.

Any contributions, advertising, suggestions or comments can be directed through the editor, Dermot Henry: dhenry@museum.vic.gov.au

A western Tasmanian issue is progressing well and is planned for November 2004. Other thematic issues planned include Australian gold and the Cobar district.

An application form is enclosed.

Tasmanian Cenozoic Basalts

REPORT ON 17TH AGC FIELD EXCURSION A5: Tasmanian Cenozoic Basalts 5-8th February, 2004.

This 4 day excursion visited a range of sites that demonstrated the nature of Tasmanian basalt exposures and their characteristic features. A comprehensive field guide providing background on Tasmanian basalts and the detailed itinerary for the trip was given to participants. It is available as Geological Society of Australia Field Guide A5: Cenozoic basalts, Tasmania: Landscapes, exposures, ages, petrography, geochemistry, entrainments and petrogenesis. F.L. Sutherland, I.T. Graham, J.L. Everard, S.M. Forsyth and H. Zwingmann, 2004. 17th Australian Geological Convention, Hobart, Geological Society of Australia, Sydney, 85pp. The GSA Specialist Group in Geochemistry, Mineralogy and Petrology provided sponsorship towards this guide, which is available at cost from the GSA head office in Sydney.



Columnar jointing in basalt at Liawanee Hill

The first day set off from the Wrest Point Hotel Convention Centre in a mini-bus with 7 participants led by Dr Lin Sutherland, Australian Museum, with driving duties being undertaken by Noel Kemp, Tasmanian Museum. The weather was fine and warm allowing good viewing of exposures. The first stop examined the Blinking Billy Point volcanic centre, first described by Charles Darwin in 1836. The tide was partly in, obscuring some of the jasper veins on the shore platforms, but otherwise exposures were closely examined. This collapsed volcanic centre was contrasted against a more intact centre, exposed along Iron Creek, east of Sorell in the second stop. The feature here was altered mantle xenoliths in coarse basalt breccias. The excursion then traveled through Copping to relatively old basalt sequences in the Bream Creek – Marion Bay area. These basalts, over 59 Ma in age, were inspected at a quarry in tholeiite beside Marion Bay Road and at landslip zones under alkali basalts at Benders Hill, with lunch intervening at Dunalley Bakery. From here, the group traveled via Sorell and Campania to Spring Hill and Sandhill Spur near Jericho. Their contrasting olivine nephelinites in plug and flow

remnants (21-25 Ma) were visited. The participants stayed overnight at Brighton.



The Nut and Stanley township.

The second day saw the group drive from Brighton via the Lake Highway to Miena on the central plateau. The first stop visited the quartz tholeiite infill (24 Ma) of the Ouse River at Skittleball Plains and discussed distinction of such basalts from Jurassic quartz dolerite. The group continued along the Marlborough Highway to Lyell Highway to locate the olivine melilitite plug west of Bronte. The swampy ground made this difficult and the group visited jointed olivine tholeiite basalts on Fourteen Mile Road before taking lunch at Bronte Park. Retracing the Marlborough Highway to Miena, the group took the Lake Highway to Liawanee Canal. Pillow structures in flowfoot breccias were examined, but degradation by weathering and previous collecting at the site by many visitors in the past meant that good secondary minerals were not easily located. The overlying basalt flows (23 Ma) were visited at Liawanee Hill, where the spectacular cooling columns of the upper flow made photogenic viewing in late afternoon sunshine. The excursion then drove back to the Poatina junction and stopped below the escarpment edge for scenic views of the Midlands rift structure. From Poatina, the party traveled via Cressy and Longford, passing Cocked Hat Hill, the major feeder for the flow (29 Ma) that diverted the South Esk at Evandale to its present course through the cataract gorge at Launceston, the overnight stop.



The base of the eastern face of The Nut

On the third day the group was joined by Tasmanian Geological Survey geologists Stephen Forsyth and John Everard for the Tamar Valley segment of the trip. After rendezvous at the 'Swiss village' resort on the Strathlyn basalt plateau, the group looked at underlying sediments and slip zones, before indulging in a wine tasting at Rosevears Estate. This allowed the party to inspect new exposures of the basalts (34 Ma) in construction cuts that allowed collecting for further research on these basalts. From Bradys Lookout, the group gained comprehensive views of the extensive basalt fills and erosive landscapes on both flanks of the Tamar River. Continuing to the Batman Bridge, the group viewed dated basalts (47-34 Ma) on the Tamar sides and had lunch beside Whirlpool Reach. The tour then moved to Beauty Point, looking at the basalt sequence there (22 Ma) and its landslip problems. Then, a long drive took the group via Exeter to Devonport and onto Wynyard. A round trip was made to Stanley on Circular Head, where the massive neck that forms the Nut (12 Ma) was examined. The group then stayed overnight in Wynyard.



The base of the eastern face of The Nut

Day four planned a boat trip to the base of Table Cape to study the xenolith suites but an overnight shift in weather conditions made landing impossible. Visits to Fossil Bluff and Table Cape Lookout were made instead. The group began the return journey to Hobart, lunching at Campbell Town, and returning in time for the conference ice breaker function at the Wrest Point Convention Centre.



Table Cape Lighthouse, with Bass Strait in the background.

F.L. Sutherland
Geodiversity Research Centre
Australian Museum, Sydney

26th Joint Australian Mineralogical Societies Seminar

This annual seminar was hosted this year by the Mineralogical society of Victoria, in the Royal Society rooms, Melbourne on June 12 - 14 2004. It included executive meetings of the Joint Mineralogical Societies and the Australian journal of Mineralogy, and a very pleasant Seminar Dinner. It was a very enjoyable event as usual, catching up with old friends and mineral news, and all went very well – at tribute to the organisers.

The talks included:

- Pegmatite minerals in alkaline rocks at Narssarsuk, Greenland and Mont St Hilaire, Canada. Dr Bill Birch (Museum Victoria):
- Pegmatites of the Thackaringa area, Broken Hill: minerals and their uses. Dr Paul Carr (University of Wollongong)
- Pegmatite minerals in the other hidden collection - the NSW Economic Rock and Mineral Collection. Mr John Chapman (Dept. of Mines, NSW)
- The pegmatites of southern Africa. Dr Ian Graham (Australian Museum Sydney)
- Pegmatitic minerals from Lake Boga, Victoria - Chemistry, morphology and geochronology. Mr Stuart Mills (University of Melbourne):
- Pegmatite types of Western Australia. Dr Mark Jacobson
- Pegmatite minerals of Tasmania. R. Bottrill
- The crystallisation of pegmatites. Dr Allan Pring (South Australian Museum)
- Precious pegmatites – the Gem Bearers. Dr. Lin Sutherland (Australian Museum)
- Pegmatites and their genesis. Prof. Allan White (University of Melbourne)
- Secondary minerals from the pegmatite-like Mo-Bi pipes of eastern New South Wales: a mineralogical cornucopia. Prof. Peter Williams (University of Western Sydney)
- Insight into a silicium and aluminium poor World: pegmatite minerals from agpaitic massifs of the Kola Peninsula, Russia. Joel Brugger (University of Adelaide)

The 2005 Seminar will be held in Perth from 5-7th June 2005, with field trips to follow in the Kalgoorlie area – further details attached.

Goldschmidt Conference 2006

This will be held in Melbourne, Victoria, 27th August to 7th September, 2006.

The SGGMP will help with the organisation of this meeting as much as possible either by sponsorship (such as overall sponsorship, sponsorship of fieldtrips, sponsorship of particular sessions) or general support. Any specific suggestions welcome.



Quartz, Trial Harbour (S. Sorrell)

Field Guides available from the SGGMP

F/G 1 - Western Subprovince of the Lachlan Fold Belt, Victoria: Structural Style, Geochronology, Metamorphism & Tectonics
Foster, Gray & Offler (eds) \$22.00

F/G 2 - Polymetamorphism and reactivation of the Reynolds Range area, Northern Arunta Inlier, central Australia - Conference, Alice Springs, July 1999 \$30.80

F/G 3 - Reactivation and reworking in the West MacDonnell Ranges region, Southern Arunta Inlier, central Australia - Conference, Alice Springs, July 1999 \$22.00

F/G 4 - Tectonothermal evolution of the Harts and Strangways Range Region, eastern Arunta Inlier, central Australia - Conference, Alice Springs, July 1999 \$30.80

F/G 5 Graham, Ian; Hollis, Julian; Sutherland, Lin & Joyce, Bernie. 2003. Insights into the Newer Volcanics Province of Victoria: SGGMP Field Guide. *Geological Society of Australia* (110pp.).

Graham, I. (ed.). 2003. Insights into volcanic processes, mantle sampling and gems: SGGMP, Central Victoria. *Geological Society of Australia Abstracts No. 71* (41 pp.).

All these are available from: the GSA head office in Sydney (02 9290 2194; sue@gsa.org.au)

Capricorn Orogen Fieldtrip

Katy Evans

This trip was run by the Specialist Group in Tectonics and Structural Geology (SGTSG) after the Kalbarri conference held in September 2003. It was a great trip, organised by members of the Geological Survey of Western Australia, the Tectonics Special Research Centre (TSRC) at Curtin University, and of the Geology Department at the University of Western Australia. We traveled north by four wheel drive bush-bus, visiting the Yilgarn craton, the Capricorn orogen (Erribiddy Shear Zone, Narryer Terrane and the Gascoyne Complex), Proterozoic sedimentary basins, and the southernmost margin of the Pilbara (Figure 1) over the course of eight days.

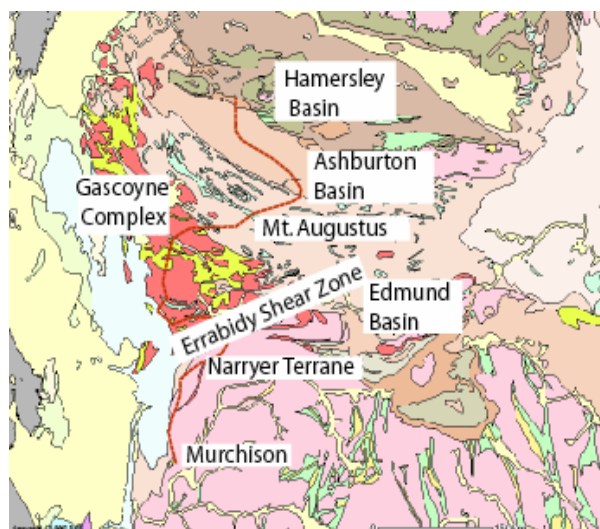


Figure 1. Route of Capricorn Field Trip

Most of the sites described here are part of the Gascoyne Complex, a big chunk of mainly Paleoproterozoic material, whose role in the construction of Western Australia is poorly understood. The southern part of the complex includes the Camel Hills Metamorphics and the Glenburgh Terrane.



Figure 2. Metamorphosed calc-silicate (Camel Hill Metamorphics)

The Camel Hills Metamorphics outcrop in the Erribiddy shear zone (Figure 2). Here, coarse amphiboles (up to 5

cm) in calc-silicate layers are impressively well preserved for rocks that are at least 2 Ga old. At the locality visited, the calc-silicate occurs as a xenolith within the locally pegmatitic Erong Granite. This juxtaposition provoked speculation on the role that granite-derived fluids may have played in the development of the coarse amphibole textures.



Figure 5. Parasitic folding and cleavage development in the banded iron formation, Bruno's Band, Hamersley Province. Photo by Damian Nance.

Further north, we visited the Moogie Metamorphics of the Glenburgh Terrane. These rocks contain similar lithologies to the Camel Hill metamorphics, although the precise relationship between the units is unknown. The package, which includes psammites, pelites and calc-silicates, is tectonically interleaved with Paleoproterozoic Halfway Gneiss to form part of the Gascoyne complex (Fig 1). The rocks are thought to have experienced amphibolite facies pressures and temperatures. Mats of sericite may be pseudomorphs of peak metamorphic sillimanite and staurolite, and chloritoid and chlorite partially or completely replace

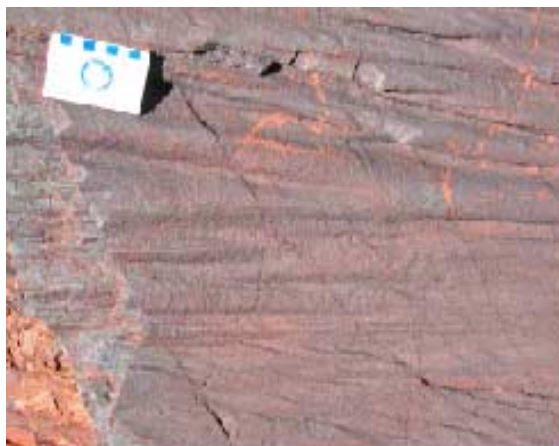


Figure 4. Banded Iron Formation, Bruno's band, Hamersley Province. Photo by Pete Betts.

garnet. These assemblages reflect the high geothermal gradients that are so common in ancient Australian rocks. The precise age of these rocks is poorly constrained, although they are intruded by an 1800 Ma granite.



Figure 3. Magma mixing and folded vein in the Dalgaringa Supersuite, Glenburgh Terrane.

The Dalgaringa Supersuite forms another part of the Glenburgh terrane, and, at the locality visited, exhibits complex magma-mixing (Figure 3) between tonalites, granodiorites and monzogranite and deformation textures. These included box-folding, pinch and swell structures, which formed pillow-like features in the

pavement outcrop, and net-veined liquid-liquid contacts between the tonalite and monzogranite.

The final mention has to go to the Banded Iron Formation that we saw at the southern margin of the Hamersley Basin. The deformation textures were awesome; slightly interfering folds formed barley-sugar twist patterns that ran the whole length of steeply dipping pavement outcrops. The different rheological properties of the lithologies were also ideal for the formation of the tiny parasitic folds which outline textbook crenulation cleavage structures (Figs 4 and 5).

The whole trip was a fantastic experience, specially for me – it was my first time in a swag, first time in a big red desert, first sight of real BIF outcrops and first trip out into rocks that ancient. The organisers did a great job; a big thanks to all of them and I look forward to their next trip.

Reference

Occhipinti, S.A., Sheppard, S., Tyler, I.M., Sircombe, K.N., Reddy, S., Hollingsworth, D., Martin, D. McB. and Thorne, A.M., 2003. Proterozoic geology of the Capricorn Orogen, Western Australia – A field guide: Western Australia Geological Survey, Record 2003/16 64p.

A Recent Geological Excursion To Primorye, Far Eastern Russia

Ian Graham and Lin Sutherland
Geoscience, The Australian Museum



IAGOD conference venue, Russian Pacific Fleet Naval Officers Club, Vladivostok.

In September, 2004, The Australian Museum mineralogists, Ian Graham and Lin Sutherland were invited to undertake joint fieldwork with research colleagues from the Far East Geological Institute (FEGI), Vladivostok, and give presentations at the International Association on the Genesis of Ore Deposits (IAGOD) Interim conference.



Figure 1. Tholeiitic basalt flow near the town of Smolyaninova.



Figure 2. Mafic dyke intruding Early Cambrian muscovite granite, Avangard.

Upon arrival at Vladivostok International Airport, we were escorted from the plane to a visiting bus to travel to the terminal, only some 50 meters away! We were met by our colleague from FEGI, Victor Nechaev, who would guide us around Primorye for the next 4 weeks and then drove to FEGI in the outer suburbs of Vladivostok and met the Director, Dr Alexander Khanchuk who took us to a late lunch – early dinner at a nearby fancy restaurant. By then I was near exhaustion from almost 18 hours traveling without a break. We stayed in a downtown Vladivostok hotel for the night (in Russia, this practice is advisable in order to be registered with the internal security ministry). Next morning, we left for the field, starting with a short visit to investigate the 10-12 Ma tholeiitic flood basalt sequence of the SW region of Primorye (Figure 1), then on to our next destination, the FEGI field camp at Avangard. Over the next few days, we investigated exposures of Late Proterozoic – Early Phanerozoic granites, amphibolites, schists and gabbroic complexes, with later mafic intrusive dykes (Figure 2). We then drove back to Vladivostok to attend the Interim IAGOD conference and present papers on our recent research on gem corundum and zircon deposits.



Figure 3. Lin with sluicing equipment, Kedrovka placer deposit.

Following the conference, we departed Vladivostok for an intensive 2 week fieldtrip, investigating the Cenozoic 7-12 Ma basaltic sequences of southern, central and northern Primorye, and their associated alluvial gem corundum and zircon occurrences. Highlights included: road-cuttings and quarries near the township of Sviyagino with Cenozoic alkali basaltic eruption centres containing lherzolite xenoliths and secondary zeolites; a quarry on Ostraya Mountain near the town of Kirovsky with the Cenozoic alkali basalts intruding and overlying earlier Cenozoic river gravels; the Kedrovka River placer gold deposits near the town of Vostretsovo (Figure 3) where we collected sapphires (Figure 4) and zircons for study back in Australia; Podgelbanochny volcano (11 Ma) near the town of Vesoly in central Primorye where we collected lherzolite xenoliths and corundum and zircon-bearing alluvial sediments; a new type of Au+Pt mineralisation hosted by graphitic schists, amphibolites and pegmatites, near the town of Lesozavodsk; and a new sapphire find at the headwaters of Tigrovyy Creek, near the town of Vesoly.

We then left Lin at the Vladivostok International Airport to return to Sydney while I spent some days at FEGI discussing further collaborative projects and the success of our trip with the Director. I also spent time in arranging official documentation from Russian Customs to accompany the samples collected during the trip and extra samples from our colleagues at FEGI to carry back with me on the plane to Australia.



Figure 4. Sapphire crystals from the Kedrovka placer system, some showing typical magmatic colour zoning. Picture courtesy of the Gemmological Laboratory, FEGI, Vladivostok. Crystals up to 1 carat in size.

Our Russian colleagues were most generous hosts though the compulsory two bottles of straight vodka with every dinner took practice. Traditional Russian food was excellent, roads were variable, and the Russian people very friendly though few speak any English. Weather was ideal for most of the trip, except for the tail end of a typhoon on arrival in Vladivostok. Samples collected during the trip will aid our research

on the origin of gem corundum-zircon deposits along the West Pacific continental margins, and our zeolites research project.

SGGMP Ted Ringwood Medal

We are planning a new medal, the Ted Ringwood medal, as follows: For the best published paper (as senior author) in any of the fields of Geochemistry, Mineralogy or Petrology, since the previous Australian Geological Convention, as judged by the SGGMP Ringwood medal committee.

Any comments on this proposal welcome.

IAGOD symposium

PRELIMINARY ANNOUNCEMENT 12TH QUADRENNIAL IAGOD SYMPOSIUM

MOSCOW, RUSSIA

21-24 AUGUST 2006

'UNDERSTANDING THE GENESIS OF ORE DEPOSITS TO MEET THE DEMANDS OF THE 21ST CENTURY'

This symposium will take place over 4 days and will consist of Plenary, Oral and Poster sessions. It will also be supplemented by Workshops, Short Course and both pre- and post-conference fieldtrips to some of the major mineral deposits in Russia. The official language for the conference is English. The First Circular will be distributed in June, 2005.

For more details, check the conference website:
www.iagod.sgm.ru



Haematite spherules, Mars From:
<http://antwtrp.gsfc.nasa.gov/apod/ap040405.html>

Mineralogy and zircon geochemistry of uranium sedimentary-hosted Beverley deposit

(Lake Frome Embayment, Curnamona Province, South Australia)

1,2Pierre-Alain Wülser, 3Yann Lahaye, 1,2Joël Brugger
 1South Australian Museum, North Terrace, SA-5005 Adelaide
 2CRC-LEME, School of Earth and Environmental Sciences, University of Adelaide
 3Institut für Mineralogie, University of J.W. Goethe, Frankfurt D-60054, Germany

The Lake Frome Embayment hosts sedimentary U deposits, which are minable by in-situ leaching technology. We present here new mineralogical data on the Beverley deposit (WC2 core, PIRSA). The drilling crosscuts the Willawortina Formation (sands & gravels), the Namba Formation (intertonguing sands, silts & clays) and Eyre Formation (carbonaceous mudstone). U deposits are located in the Namba and Eyre Formations [Callen 1975; Ellis 1980].

Eyre	Namba	Willawortina Formation
native copper		
barytine - apatite	apatite	detr. apatite
Carnotite		
pyrite-sphalerite		detr. rutile
uraninite-coffinite		magnetite-ilmenite-rich
yellow & red z.	white milky & red-orange zircons	
Up to 136 [m]	>13	>20
	>12	>30
	>11	>40
	>10	>50
	>90	>60
	>80	>70
	>70	>80
	>60	>90
	>50	>10
	>40	>0
	>30	>0
	>20	>0
	>10	>0
	>0	>0

Heavy mineral extraction from sediments was conducted by panning, micro-jigging and magnetic separations. WC2 shows complex authigenetic mineralogy with native copper, carnotite, barytine, apatite, pyrite, sphalerite, coffinite, uraninite. U4+ minerals appear as botryoidal aggregates or small spheres with pyrite cores, located in mudstone and silts. Proportion of detrital heavy minerals varies between 0.1 and 1.0% in sands. Some zircons show a UV-fluorescent rim related to presence of uranyl.

We divide zircons in two populations based upon their Mo-content. Mo is always detectable in our LA-ICP-MS analyses, unlike other transition elements. We suggest the Mo is an excellent indicator element because of its ability to enter zircon interstices [Finch et al. 2001].

Median values (ppm) of some elements in 150 zircons. Separation at 2.83 ppm Mo between two fractions: Mo-poor zircons (67%) and Mo-rich (33%).

	P	Sc	V	Nb	Fe
Mo < 2.83	570	1322	2.7	8.6	399
Mo > 2.83	894	1721	266	131	7557
	Er	Yb	Hf	U	Ta
Mo < 2.83	312	750	17795	537	4.8
Mo > 2.83	2136	2506	19435	2421	32
	Y	Mo	Sm	Gd	Dy
Mo < 2.83	1309	1.7	12	54	203
Mo > 2.83	13500	7	499	994	2656
	Th	REE tot	Ce/Ce*	Eu*	Xen. sub
Mo < 2.83	278	3423	3.44	0.27	27 %
Mo > 2.83	122	25225	1.34	0.33	48 %

With respect to the Mo-poor population, Mo-rich zircons are highly enriched in Cu, V, LREE and MREE, Sr, W, Ga, Mn, Fe, Nb, Ba, Ca, Zn, Sn, Sb; moderately enriched in P, Mo, HREE, Y, Ta, U; and depleted in Th. The positive Ce anomaly is significantly lower (1.34) compared to Mo-poor zircons (3.44) and negative Eu/Eu* anomaly is slightly lower. Sc and Hf have similar concentrations in both populations, and the "Xenotime-substitution" only partly apply in our zircons [(Sc,Y,REE)>>P]. The geochemical characteristics of the Mo-rich population imply a source from monazite- and allanite-bearing granites (trapping of Th; e.g. Mesoproterozoic granites in Curnamona Province). These enriched zircons are present in a large proportion (~40%) in the upper part of Willawortina Formation (0 -60m) and in the permeable cross-bedded sands & silts of the Namba Formation (120 -135m). There is a possible link between the genesis of the uranium sedimentary-hosted deposits and U-rich zircons. Presence of carnotite also demonstrates the transportation of uranium as UO₂²⁺ in sands. Pyrite in cores of uraninite & coffinite confirms the local role of bacteria in the reduction of uranium.

References:

Finch et al., 2001. Am. Mineral. 86, pp. 681-689.
 Ellis G.K. 1980. AAPG Bulletin 64 (10): 1643-1657.
 Callen R.A. 1975. Mon. Ser., AusIMM 5, Econ. Geol. of Australia and Papua New Guinea: 1, 803-807.
 Pierre-Alain Wülser was sponsored by the SGGMP to present this talk at the 17th AGC, Hobart, 2004.

Interim Statement Of Income And Expenditure

Interim Statement to end November 2004

2003		2004
INCOME		
2,062.05	Subscriptions	1,289.00
8.55	Grant	40.47
109.00	Publications	729.00
8.98	Interest- Current Account	5.87
370.34	Interest- Term Deposit	185.29
6,616.00	Newer Volcanic Excursion	----
2,050.00	AGC Magmatic Sulphide Workshop	1,132.04
279.80	Appreciation in Stock Value	N/A
\$11,504.72	Total Income	\$3,381.67
EXPENDITURE		
----	Audit Fees	45.00
8.75	Bank and Government Charges	11.50
8.55	Newsletter Postage	6.80
3.10	Stationery Expenses	----
637.70	IMA Annual Contribution	512.20
----	AGC Magmatic Workshop Sponsorship	750.00
----	AGC Magmatic Workshop Expenses	318.48
----	AGC a5 Excursion Sponsorship	250.00
----	Binding GSA Abstract No 71	55.00
----	Booking Fee, Port MacQuarie Conference	500.00
150.00	GSA Web Site Contribution	150.00
5,286.05	Newer Volcanic Excursion Expenses	530.00
\$6,094.15	Total Expenditure	\$3,128.98
\$5,410.57	Operating Surplus/Deficiency for Year	\$252.69

Interim Funds Summary as at 30th November 2004

2003		2004
\$5,410.57	Operating Surplus/Deficiency for Year to date	\$252.69
\$15,824.81	Add Members Funds as at 1 st January	\$21,235.38
\$21,235.38	Balance of Funds	\$21,488.07

Represented by:

\$12,107.15	Connect Credit Union General Account	\$12,173.55
\$8,695.58	Connect Credit Union Term Account	\$8,880.87
\$422.00	Value of Publication Stock	N/A
\$10.65	Petty cash on hand	\$11.65
\$21,235.38	Total	\$21,066.07

Submitted by : D McP Duncan
Hon Treasurer

Approved by : R S Bottrill
Chairman

Electronic newsletter

For those of you who received this newsletter only in hardcopy/snail mail, the newsletter can be made available electronically on request; this will make available colour pictures, hot links to other websites, email addresses, etc. just email the editor on rbottrill@mrt.tas.gov.au .

Dynamic Planet 2005

**"Monitoring and Understanding a
Dynamic Planet with Geodetic and
Oceanographic Tools"
A Joint Assembly of the IAG, IAPSO
and IABO
22 - 26 AUGUST 2005
CAIRNS, AUSTRALIA**

<http://www.dynamicplanet2005.com>

Scientists from all countries are invited to participate in this unique conference - a joint assembly of the International Association of Geodesy (IAG), International Association for Physical Sciences of the Oceans (IAPSO), and the International Association for Biological Oceanography (IBO).

Under the program theme "Monitoring and Understanding a Dynamic Planet with Geodetic and Oceanographic Tools", the emphasis will be on the interaction of the earth and oceanographic sciences, as well as providing an opportunity to hear the latest research in the disciplines of geodesy and oceanography.

The location for 2005 will be Cairns, Australia - A vibrant city, fringed by the world famous Great Barrier Reef and Coastal Rainforest. No other city in the world lies next to two World Heritage Listed sites - offering the perfect setting for Dynamic Planet 2005.

Registrations and Call for Papers are now open!

For further information, please visit the Dynamic Planet website
www.dynamicplanet2005.com

Melissa Crowle
Event Coordinator

Fifth International Dyke Conference - IDC5

**31st JULY - 3rd AUGUST 2005
Pohtimolampi Wilderness Hotel
Polar Circle - Rovaniemi - Finland**

The IDC5 will precede the 10th International Platinum Symposium (10th IPS) which will be held close to Rovaniemi, in Oulu at 7-11th August 2005.

<http://platinumsymposium.oulu.fi>

Important Dates

Deadline for abstracts	1 March 2005
Reservation deadline for field trips	1 March 2005
Confirmation of field trips	15 March 2005
Deadline for early registration fee	1 March 2005
Deadline for proceedings papers	3 August 2005
IDC 5 Conference	31 July – 3 August 2005 (Sun-Wed)



Plumbogummite, Cumbria, England

Mineralogical Abstracts

MINABS Online: direct access to authoritative mineralogical data and information on the less well known journals. Published by the Mineralogical Society

Do you or your institution subscribe to MINABS Online the new online database for the mineral sciences? The e-journal and successor to Mineralogical Abstracts has over 100,000 abstracts on papers going back to 1982 covering the fields of mineralogy, crystallography, petrology, environmental science and economic geology. Over 500 new abstracts are added every month. For full details of the e-journal's coverage and how to subscribe go to:

<http://www.minersoc.org/pages/publications/minabsflyer.htm>

6th International Symposium on Applied Isotope Geochemistry (AIG-6)

**Prague (Czech Republic)
from 11 to 16 September 2005.**

The Symposium's web site (<http://www.aig6.cz/>) has the up-to-date details, and I urge you to visit it if you are interested in attending. Please follow the 'Registration' link to complete the registration form, if you intend to present a paper, poster or attend the Symposium.

A few important dates to enter in your diary are:

- February 28, 2005
Last day for Abstract submission
- Before March 15, 2005
Authors notified about acceptance of Abstracts
- April 15, 2005 Last day for receipt of lower-rate Registration Fee
Last day for receipt of Accommodation Deposit
Last day for receipt of payment for the 2-day Post-conference Field Trip "East Bohemian National Parks and Chateaux"
- Before May 10, 2005 Participants notified about receipt of AIG-6 payments
Participants notified about selection of their contribution for oral or poster presentation
- June 20, 2005 Last day for cancellation of Registration with full refund less 10 % processing fee
- September 9, 2005 Recommended day of arrival in Prague
- September 9-11, 2005 On-site Registration
Balance of Accommodation paid at the Registration Desk
- September 10-11, 2005 Two half-day guided tours of Prague
- September 11, 2005 Ice-breaker
- September 12-16, 2005 AIG-
- 6 September 16-18, 2005 Post-conference Field Trip "East Bohemian National Parks and Chateaux"

Patrice de Caritat, PhD

Cooperative Research Centre for Landscape Environments & Mineral Exploration (CRC LEME)

[<http://www.crcleme.org.au>]

c/- Geoscience Australia (GA)

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Fax: (02) 6249 9930 - International: 61 2 6249 9930
Mob: 0418 219 478 -
International: 61 418 219 478
Email: Patrice.deCaritat@ga.gov.au

EPMA dating conference session and workshop

**James Cook University, Townsville, Australia
September 3 and September 4**

I would like to bring to your attention a conference session and workshop on EMPA dating of accessory minerals to be held at the STOMP conference, James Cook University, Townsville, Australia. The STOMP conference runs from August 29 to September 2 and the workshop follows directly after on September 3 and September 4. More details of the conference are available at <http://www.jcu.edu.au/STOMP>. The conference session will focus on refinements of the technique and new applications, but submissions covering any aspect of EMPA dating will be welcome. Joe Pyle will be the keynote speaker.

The first day of the workshop run by Joe Pyle and myself will focus on the dating process from beginning (sample choice, imaging, calibration, etc.) to end (data reduction and presentation) and comparison to isotopic data. The second day will involve working on 2 case studies with frequent visits to the JEOL JXA-8200 Superprobe. For the second day, we will take 1 or 2 thin sections from each of two suites or localities - one will have a microstructural/tectonic emphasis (Case Study 1), and the other (Case Study 2) will have a metallogenic/ore deposit emphasis (i.e. from a Y, P, Th, U, REE deposit of economic grade, or at least worth studying). The dateable mineral in the microstructural suite should be monazite, the ore deposit suite may contain anything from monazite to uraninite, thorite, thorumite, allanite, baddeleyite, or xenotime that may be present in a primary or secondary ore- assemblage association. Each participant will submit a short "dating proposal" (less than a page) for either the microstructural-emphasis suite or the ore-deposit suite emphasizing:

- 1) what chemically dateable accessories may be present
- 2) the general setting of the suite (sample)
- 3) an idea of whether the expected ages lie at the old or young end of the spectrum
- 4) what types of questions you hope to answer by getting ages, and the desired precision necessary (if obtainable) to answer these questions.

Joe and I will look over the submissions, and pick a microstructural-emphasis sample and an ore-emphasis sample. Joe and I will gather the raw data

on the samples at our respective laboratories prior to the workshop and we will review it on the JEOL JXA-8200 Superprobe at James Cook University during day 2 of the workshop. The analytical time will be costly, but is included in the registration fee. The deadline for dating proposals is February 15 and receipt of the chosen thin-section March 1 in order to complete the extensive analyses Joe and I plan to perform on the samples in sufficient time. We may accept additional samples, time and cost permitting.

A more detailed outline and schedule for the workshop will be posted shortly on the STOMP website at <http://www.jcu.edu.au/STOMP> . Experts in the field, such as Alain Cocherie, Jean Marc MONTEL, Mike Williams, and Kazuhiro Suzuki will be attending the session and participating in the workshop.

Don't forget to book airline tickets as early as possible to Australia as ticket prices have a tendency to rise dramatically approaching the departure date. Good prices from Sydney, Brisbane, or Cairns to Townsville can be found at www.virginblue.com.au, www.jetstar.com.au, www.quantas.com.au, and www.allianceairlines.com.au

Please drop a short e-mail to me if you are interested in attending either the conference session or workshop.

Cheers,

Paul M. Evins

School of Earth Sciences

James Cook University

Townsville, QLD 4811

AUSTRALIA

work: +61747814747 mobile: +61408197595

<http://www.jcu.edu.au/~jcl46233>

New Zealand Geochemical Group Conference

The 19th New Zealand Geochemical Group Conference incorporating the New Zealand Mineralogical Society will be held at the Orakei korako Resort June 27-30 2005

Live-in accom is available here (with free hot pools thrown in on the deck for late night discussions).

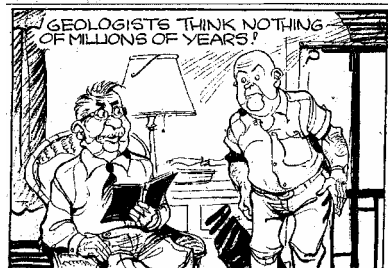
For more info see:

<http://www2.auckland.ac.nz/glg/nzgg/conf05.pdf>



Wulfenite, Whim Ck, WA
Photo: S. Sorrell

WALLY AND THE MAJOR - - - - - Long Term





Mineralogical Society of Western Australia (Inc.)

proudly hosting the

28th Annual Joint Mineralogical Societies Seminar 2005

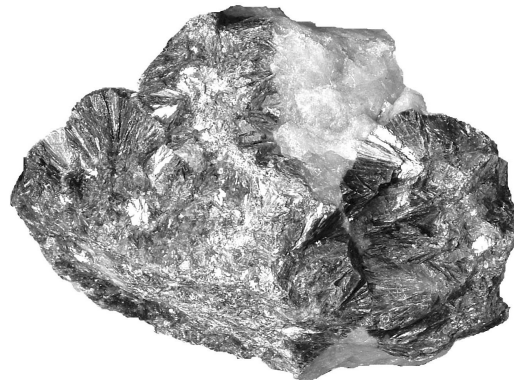
Saturday 11th & Sunday 12th June

Theme:

Minerals of the Goldfields, Western Australia

“All that glitters is not gold...”

zinnwaldite (a lithium mica)
with quartz
Londonderry Pegmatite,
Coolgardie, Western Australia



Likely seminar costs:

Seminar Registration for the two days \$60

Seminar Dinner held at a local Restaurant

Cost expected to be comparable with previous Seminar Dinners

3-day Field Trip Monday 13th to Wednesday 15th June

(Kalgoorlie area) Cost will be dependant on number of participants and localities visited



Expression of interest – Yes, I would like to know more about *the 28th Annual Joint Mineralogical Societies Seminar* in Perth, and Field Trip

(please send completed form to: **The Secretary, John Reeve, 13 Buchan Place, Hillarys, WA 6025** or contact by telephone: 08 9401 1963, fax: 08 9245 8885, or email: sacko@multiline.com.au)

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Mailing address: _____

Email address (if available) _____

Telephone (day) _____ Mobile _____

Australian Journal of Mineralogy

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the _____ Mineralogical Society.

(there is one in each state)

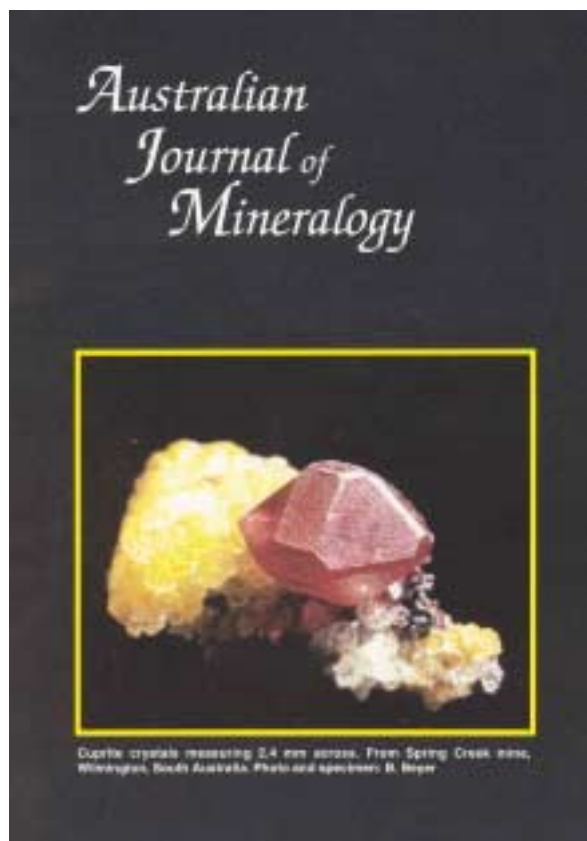
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Recent data releases on the Data Metallogenica website
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- **Diamonds** – Argyle, Ellendale, Fort a la Corne, Hardy Lake
- **Gold** – Yanacocha, Lihir, Tanami deposits
- **Copper** – Oyu Tolgoi, Antamina, Batu Hijau, Tampakan
- **Zinc** – Century and Lawn Hill satellites, Red Dog, Lennard Shelf, Vazante, Irish and Iberian deposits
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**SPECIALIST GROUP IN GEOCHEMISTRY, MINERALOGY AND PETROLOGY
(SGGMP), GEOLOGICAL SOCIETY OF AUSTRALIA**
present the:

FIRST BIENNIAL CONFERENCE

SGGMP – PORT MACQUARIE, 2005

VENUE: SAILS RESORT, PORT MACQUARIE

DATES: 13-15th July, 2005



(View of dykes intruding gabbro, Tacking Point)

At the last Annual General Meeting of the SGGMP during the Hobart AGC in February, 2004, we decided to have a biennial SGGMP conference, to be held in a different state of Australia every 2 years. The first of these will be held at Port Macquarie on the mid-North Coast of NSW in 2005.

DETAILS

The conference will have no set theme, and any papers in the fields of geochemistry, mineralogy and petrology are welcomed. Once abstracts are in, specific sessions will be organised around their content. An official Geological Society of Australia Abstracts Volume (papers will be refereed) will be produced, along with a field guide on the region.

The conference will comprise two days of sessions on the Wednesday (13th July) and Friday (15th July). Thursday (14th July) will consist of a morning (till lunch) of fieldtrips along the Port Macquarie coastal strip and includes outcrops of blueschists, eclogites and mafic intrusions and dykes. The afternoon will be dedicated to student presentations.

INVITED SPEAKERS::

Prof. Jon Davidson, University of Durham: 'Subduction zone magmatism'
and

Prof. Peter Williams, University of Western Sydney: 'Oxide zone mineralogy and geochemistry'

PRESENTATIONS

Presentations will be of 15 minutes duration (with 5 minutes question time) and extended abstracts of 4 pages (including figures and references) will be accepted. If you are interested in attending and/or presenting a paper at this conference, please fill-out the form on the following page, and send it by email, normal mail, or FAX. Abstracts need to reach the organiser (see bottom of Registration Form) by the end of May, 2005 at latest.

VENUE

Port Macquarie is on the mid-North coast of NSW and is a popular holiday resort due to the numerous nearby beaches. The town is of moderate size and has a wide range of restaurants and cafes, to suit all tastes and budgets, though it is especially well-known for its seafood. In winter, the climate is mild and generally dry though please bring warm clothes and wet weather gear just in case. Things to do include coastal walks, golf (there are a number of golf courses), fishing, whale watching and a visit to the nearby Koala Park.

FIELDTRIPS

Fieldtrips will be held on the Thursday morning of the conference to the Rocky Beach Metamorphic Mélange (i.e. blueschists and eclogites) or the Tacking Point Gabbro (i.e. mafic intrusives and dykes). For these, sturdy shoes will be required. As mentioned above, a comprehensive field guide will be prepared for the conference, covering the Port Macquarie region in general, but with more detailed information (including maps) on the sites to be visited during the fieldtrips.

COSTS

Registration Options

R1 Basic Registration fee **\$200**

The basic cost of registration (includes Abstracts volume, field guide, arrival tea + coffee, morning and afternoon teas, buffet lunches).

R2 Student registration fee **\$150**

Discounted basic cost of registration (includes Abstracts volume, field guide, arrival tea + coffee, morning and afternoon teas, buffet lunches).

R3 Registration fee for delegates staying at Sails Resort **\$80**

(includes Abstracts volume and field guide)

We have arranged a special registration + accommodation offer (**Residential Delegate Package**) for delegates staying at Sails Resort (includes arrival tea + coffee, morning and afternoon teas, buffet lunches, buffet-style breakfast and accommodation). Costs are as follows:

Single room	\$175/night	(\$525.00 for 3 nights)
Twin/Double	\$117.50/night	(\$352.50 for 3 nights)
Triple	\$110/night	(\$330.00 for 3 nights)

Please book directly with Sails Resort for this (quoting the **Residential Delegate Package** for the SGGMP Biennial Conference) on:

Tel. 02 6583 3999 FAX 02 6584 0397

Email events@sailsresort.com.au

Port Macquarie also offers a wide range of accommodation options (from backpacker and bed & breakfast to resorts) to suit all budgets. This can be booked through the Port Macquarie Information Office on:

Tel. 02 6581 8014 FAX 02 6581 8010

Email maggieb@hastings.nsw.gov.au

We will also be holding a conference dinner (two course meal) at Sails Resort on the Thursday Evening. Please indicate on the attached Registration Form if you wish to attend this.

Deadline for registration is 30th May 2005.

SGGMP – PORT MACQUARIE, 2005

REGISTRATION FORM

Name: _____

Address: _____

Phone: _____

FAX: _____

Email: _____

REGISTRATION OPTIONS (please tick)

R1 Basic registration fee	\$200
R2 Discounted student registration fee	\$150
R3 Supplementary fee for delegates staying at Sails Resort	\$80

D1 Conference dinner at Sails Resort	\$35
--------------------------------------	------

No. of people attending _____

Total paid \$ _____

For cheques, please make payable to:
SGGMP, Geol Soc Australia

Deadline for registration is 30th May 2005.

PRESENTATIONS

Would you be willing to present:

a) oral presentation

b) poster presentation

Will you be sending your abstract by:

normal mail

email attachment

**Send to: Dr Ian Graham
Mineralogy and Petrology, Australian Museum
6 College St, Sydney, NSW 2010, Australia**

Email: iang@austmus.gov.au

Phone: 61-2-9320 6100

FAX: 61-2-9320 6050

**FOR ALL CORRESPONDENCE AND FURTHER
INFORMATION, PLEASE CONTACT:
Dr Ian Graham (above)**