



February 2005

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Thursday February 24

**Geology of the Sultanate of Oman: ophiolite obduction
and consequences for the Arabian Peninsula**

David R Gray

Venue: Earth Sciences, University of Melbourne (Corner of Swanston & Elgin Street)
Drinks and nibbles at 5.30 pm in the Tea Room, 4th Floor (\$2 per person)
General Meeting at 6.15 pm – Fritz Loewe Lecture Theatre

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Since 1994 David Gray has undertaken 3-4 weeks annual fieldwork in the Sultanate of Oman and has developed a knowledge and understanding of Oman, its geology and its people. Part of the oil-rich Arabian Peninsula, Oman is dominated both topographically and geologically by the Oman Mountains with elevations up to 3000 m. The arid landscape and almost total lack of vegetation provide superb exposures of the obducted Samail Ophiolite (former Neotethys oceanic crust) now sitting on the Arabian margin, as well as the former passive margin platform and ocean basin pelagic sequences. Gray's research, in conjunction with Robert Gregory formerly of Monash University and now Southern Methodist University, Dallas, Texas, has been on the structural story contained in the rocks beneath the ophiolite. These deformed rocks provide the clues as to how and why the ocean crust has been emplaced (obducted) onto the Arabian margin some 80 m.y. ago. Oman has spectacular scenery and a rich history that will be highlighted in the talk.

Web address: <http://vic.gsa.org.au> for up to date GSAV news

A message from our Chairman

Welcome to the first edition for 2005 of The Victorian Geologist.

It is likely to be a busy year for many of us. High on the agenda is preparations for the Australian earth sciences convention 2006, which will combine the 18th Australian Geological Convention and the ASEG's 18th International Geophysical Conference and Exhibition. Although it will not be held in Melbourne until 2-7 July 2006, the planning is already in full swing. The call for abstracts and the start of on-line registration is 1 June, less than 4 months away, so please think about what you can do to be part of the best ever convention. Write that abstract. Offer to help with the organisation. And, as former Hawthorn coach John Kennedy famously said "Don't just think! Do!"

Closer cooperation will be a constant theme of 2005. As those of you on email have already discovered, we will be advised of speakers at AusIMM meetings and you are all certainly welcome to attend. The convention is also jointly run. While this can create some organisational problems, it is clearly of benefit to you, the members. Indeed there is a great overlap in membership and interests between the GSA, AusIMM, ASEG, AIG and PESA. Working more closely together helps maximise the benefits of membership to any one of the societies. It also helps to give our speakers larger audiences, which in turn helps us get better talks.

Our student support initiative that was launched in 2004 is certain to be well used in 2005. Not only do Honours students get free membership to the GSA, Honours, Masters and PhD students who are members can apply to the Society for support to attend conferences. In return, they are likely to be asked to present to the monthly meetings.

These people are the future of our science and our society. By encouraging them to join and to present, we are fostering the dialogue between youthful vision and older wisdom.

Finally, a plea for new blood on the committee. No-one is expected to serve more than 4 years, which means that every year we need to find a few willing helpers. Some positions are presently unfilled and other committee members are certain to step down. The work is rewarding, and offers excellent networking opportunities. If you can help, please let one of the committee know. If someone asks you to join, please be willing to come on the committee. Ultimately it's your society, so let's make it the best we can.

David Moore

Major Upcoming Events

Up to date information on GSA activities and events is available on the GSA website
www.gsa.org.au

WANTED. The present newsletter editor, Lex Ferguson, is retiring from that position at the next AGM in April. The Committee is calling for a volunteer to take over this work from that time. It involves a few hours per month setting out the newsletter, arranging for its printing and posting, and coordinating with the Sydney Office to keep the mailing lists up to date. Would some public spirited Society member please give it a go!

Advice from the Treasurer:

Finance Subcommittee

The Division Committee has endorsed the idea of setting up a Finance Subcommittee, chaired by the Treasurer, to oversee the Division's assets. Division members interested in participating in this subcommittee should contact the Treasurer (thomas@unimelb.edu.au). We do not envisage becoming active day-traders, but our direction could do with a regular review.

Nominations are now being sought for the 2005 presentation of the Selwyn Medal so please have a discussion with your colleagues about worthy candidates.

A candidate should have made a major contribution to new knowledge of the geology of Victoria, or an important reinterpretation of it based on critical observations, or have contributed significantly to a major initiative in exploration or engineering geology, produced important geological publications or have been successfully involved in the development of the geological profession.

Nominations should include the name of the candidate, biographical data, a citation in 300 words or so of the work and its significance to the geology of Victoria, and names of at least two geologists who support the nomination.

**Please mail nominations to: Awards Committee, GSA Victoria Division
5 Mossman Drive, EAGLEMONT VIC 3084**

Fees Please!

Each year GSA needs to receive membership fees to keep up its good work. However many members seem to develop anmesia in this regard over the holiday period. As a consequence their names end up in the unfinancial members list, and if they do not pay by June their newsletter is discontinued. If you have just forgotten, would you please pluck the renewal form from the bottom of the "ToDo" pile – or log on to the GSA website! <https://secure.gsa.org.au/fees>.

GSA (VICTORIA DIVISION)

Please address all correspondence to the GSA, Victoria Division

GPO Box 2355V, MELBOURNE, VIC 3001

Web address: <http://vic.gsa.org.au>

COMMITTEE 2004

OFFICE BEARERS

Chair:	David Moore	phone	9859 9374
Vice Chair:	Vacant		
Secretary:	Peter Pritchard		9439 9582
Treasurer:	Lindsay Thomas		9328 1722
Promotions:	Vacant		

COMMITTEE MEMBERS

<i>Elected Members:</i>	phone
Geof Fethers	8420 6280
Leisa Brough	9727 4898
Andy Wilde	9905 1140
Richard Squire	
Rene LaBerge	
Fons VandenBerg	9412 5122

SUBCOMMITTEES

AWARDS: Lex Ferguson	9458 4308	GEOLOGY of VIC: Bill Birch	9270 5049
EDUCATION: Noel Schleiger	9435 8408	HERITAGE: Sue White	9328 4154
MEMBERSHIP: Leisa Brough	9727 4898	PUBLICATIONS: Vacant	
WEBSITE EDITOR: Jodie Miller		NEWSLETTER EDITOR: Lex Ferguson	9458 4308
BICENTENNIAL GOLD: Gerhard Krummei	9820 2595.		

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Sue Fletcher, Business Manager, GSA, Suite 706, 301 George St., Sydney NSW 2000

Email: sue@gsa.org.au Tel: (02) 9290 2194 Fax: (02) 9290 2198**Website extensions**

The GSAV Website (www.vic.gsa.org.au) is continuing to evolve. Fons VandenBerg and Vince Morand have contributed summaries of Victorian Geology that can be viewed now (but the pages will be further fine-tuned).

You could contribute to further improvements – here are a couple of suggestions. If you have some (or even one) good (digital) image that could be linked to a particular location in the current narrative, send it in to thomas@unimelb.edu.au with a brief caption, and we will connect it up. Alternatively, if you would like to put together a brief location, site, or phenomenon description, with illustrations, that could be linked to the Victorian Geology page, then send it in. The text can be in any format, and we can transmute it into a web page. We can also scan slide or paper images and return them if needed.

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March 2005

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Thursday March 31

Volcanology research program at Monash University

Ray Cas, Jill Middleton and Rene Laberge

Venue: Building 72 (Engineering) Monash University, Normanby Road, Clayton North

Drinks and nibbles at 5.30 pm (\$2 per person)

General Meeting at 6.15 pm – Lecture Theatre E7, Building 72

Map Reference Melway 475. Parking adjoining West Ring Road

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Ray Cas: Introduction.

The pure and applied aspects of the volcanology research program at Monash University

Jill Middleton, PhD student:

"The Arico Ignimbrite: the complex facies architecture of a widespread, phonolitic ignimbrite produced by a highly explosive plinian eruption from Las Cañadas Caldera, Tenerife"

Tenerife, in the Canary Islands, northwest of Morocco, is a long lived oceanic, basaltic shield volcano, that in the last 4 Ma evolved a highly explosive summit phonolitic caldera system. The Arico ignimbrite is one of the largest and most extensive phonolitic ignimbrites on Tenerife. It records a complex history of eruption dynamics and depositional processes, and is the only extensively welded ignimbrite on the island. It is composed of several individual depositional units emplaced by pyroclastic surges and flows which were channelled down large barrancos on the upper slopes of the volcano before spreading out once they reached the coastal plains. The Arico ignimbrite is also highly erosive in nature and commonly erodes its substrate and its own internal units. The initial eruption involved the formation of a short-lived plinian eruption column, followed by column collapse and the deposition of ground surge deposits. A rapid succession of phonolitic pyroclastic flows

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then ensued with the deposition of several units of differing thicknesses and characteristics, some with clearly developed ground layers rich in lithics and others leaving only thin ash layers. The insulated, continually collapsing column and the selective channelling of the flows down barrancos allowed the later pyroclastic flows to retain their heat and weld.

Rene Laberge, PhD Student:

"The significance of breccias in the Monte Cimino volcanic system, central Italy: the evolution of a silicic lava dome complex from a series of cryptodomes to a pyroclastic flow generating volcano"

Explosive eruptions from active lava dome volcanoes pose a serious hazard in several regions of the world today. Not all domes have explosive eruptions, however, and many domes appear to experience cycles of explosivity and more passive magma emplacement. The transition of a dome system from non-explosive to explosive is of interest both for understanding geologic hazards and to have a fundamental understanding of the growth and evolution of these very complex volcanic systems. One example of the evolution of a cryptodome into a lava dome volcano is observed at the Pleistocene Cimini dome complex in central Italy. A variety of breccias record the transformation of the Cimini dome complex from an early intrusive phase to later emergence and explosive eruptions. The character of the breccias provides insight into the eruptive styles and the surface expression of the dome complex through this transition to explosive activity.

Ray Cas:

"The volcanology of diamond-bearing kimberlites: a snapshot of some of the issues"

The eruptions of kimberlite pipes have never been witnessed, so we don't know what the eruption styles nor volcanoes were like. Volcanological models for kimberlite pipes have been based for many years on the geology of southern African pipes, involving narrow tapering pipes. A hypothetically complete pipe would be filled with a deep-seated or root zone porphyritic, hypabyssal kimberlite, passing upwards into a transitional kimberlite facies, which in turn is gradationally overlain by tuffisitic kimberlite breccia in the diatreme part of the pipe, and then at the top by crater facies in the crater zone. In addition, large slumped megablocks of country rock, and perhaps crater rim facies occur, and the margins may include highly brecciated country rock breccia zones. Many newly discovered Canadian pipes of the "prairies type" are wider, flared and bowl shaped, and appear to be dominated by "crater facies", rather than the tuffisitic kimberlite breccia that is so prevalent in the diatreme part of the southern African pipes. These differences are prompting a reconsideration of many aspects of kimberlite volcanology, especially the physical processes that have been involved in the filling of the pipes. These processes will be considered in terms of modern volcanological concepts. In particular, the origins of transitional facies and tuffisitic kimberlite facies as being the products of in-diatreme fluidization processes will be questioned, and the role of alteration in overprinting original textural characteristics will be considered. There are also significant problems with kimberlite-specific terminology that clouds understanding of processes. Constraints on volcanological processes will be discussed.

Hear it from the Chair

A plea for new blood on the committee: Every year we need to find a few willing helpers.

Some positions are presently unfilled and other committee members are certain to step down. The work is rewarding, and offers excellent networking opportunities. If you can help, please let one of the committee know. If someone asks you to join, please be willing to come on the committee. Ultimately it's our society, so let's make it the best we can.

AGM in April

Our AGM is on April 28th so should send in nominations for a new committee now. Heads of subcommittees should transmit their yearly reports to the Secretary, Peter Pritchard, this month.

Membership Matters

Applied for membership:	Jackie Anne Klippel
Applied for Student membership:	Michelle Guzel
Transfer to Retired Membership:	Alexander Neil McLaurin
	Gary Leonard Wallis
Transfer to Associate membership:	Dr Gideon Rosenbaum

Upcoming Events

The Geological Society of Australia Victoria Division and the Southern Grampians Shire council are appearing before the Victorian Civil and Administrative Tribunal on May 18th to preserve the Recent Byaduk basalt flow in an undisturbed condition.

GSAV will take a booth at the Geography Teachers Association Conference at Camberwell High School, August 14th to 16th. Volunteers to staff this would be welcome. Contact Noel Schleiger, Education Subcommittee 9435 8408.

WANTED. The Committee is calling for a volunteer to take over editing the newsletter after April. It involves a few hours per month setting out the newsletter, arranging for its printing and posting, and coordinating with the Sydney Office on updating mailing lists.

Change to an emailed newsletter

It is very much easier to keep you up to date by means of an emailed newsletter. The majority of our members already receive their newsletters by email and we would like any others who have email addresses to transfer to this method of delivery.

Just email thomas@unimelb.edu.au and request a changeover.

A few email addresses have become obsolete. If this applies to you please send your current email address to Lindsay Thomas so you can continue to receive a newsletter.

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Treasurer:	Lindsay Thomas		9328 1722
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Leisa Brough	9727 4898
Andy Wilde	9905 1140
Fons VandenBerg	9412 5122

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April 2005

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Thursday April 28

One Geophysicist's View of Australia

David Moore
Geoscience Victoria

Venue: Earth Sciences, University of Melbourne (Corner of Swanston & Elgin Street)
Drinks and nibbles at 5.30 pm in the Tea Room, 4th Floor (\$2 per person)
General Meeting at 6.15 pm – Fritz Loewe Lecture Theatre

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One Geophysicist's View of Australia

Imaging magnetic and gravity data has provided geologists with a view of Australia that was not available to previous generations of geologists. Since almost all of the information in these images results from geological sources, interpreting the images can be a powerful tool for understanding the way eastern Australia has formed. In Victoria, we have an extra advantage, since the state contains the only exposed section across the Tasman Fold Belt. This allows Victoria-centric geologists to extrapolate along-strike to infer the context of western New South Wales and central Queensland. The talk will offer ideas about what lies below the Murray and Great Artesian basins and a tentative mechanism for how it happened.

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PROGRESS REPORT ON SALES OF GEOLOGY OF VICTORIA

To the end of 2004, some 14 months after the launch of the book, we have moved close to half of the 1200 print run. The main breakdown of distribution figures is as follows:

Local sales: c250

Sales through Sydney office: 224

Sales through commercial outlets: 29

Complimentary/authors: 90

A month-by-month plot of sales figures shows the familiar decline curve. We are now averaging about 10 sales per month. If this continues we can perhaps consider a reprint in about 5 years. Records of any errors discovered are being kept so that these can be fixed when the volume is reprinted.

There are about 610 books in stock, with the main batch at the GSV's Werribee core laboratory and the rest in the Geosciences store at the REB. The distribution system from the REB is working well and the Sydney office continues to issue tax invoices to our four commercial outlets. These are the Melbourne Museum Shop, Information Victoria (Collins Street), the DSE Information Centre (Nicholson Street) and the DPI Bookshop (Spring Street).

A review of GOV was printed in The Australian Geologist late last year. The reviewer made some observations on the editing which were not especially favourable. However, I have forwarded a response to the TAG editor pointing out several inaccuracies in the review.

Bill Birch
6/1/2005

Upcoming Events: AGM

Our AGM is on April 28th. It is hoped the Treasurer's report will be published in the next newsletter. Auditing delays at Head Office in Sydney have caused its preparation to be delayed.

Membership Matters

Student member:

Zarah Heyworth

Member:

Chris Buchanan

Transfer from Student Member to Graduate member: Monica Campi

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May 2005

**THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division**

Thursday 26 May

**Attention to detail:
a key to diamond exploration in Australia**

**Simon R. Shee
Regional Research Manager
De Beers Australia Exploration Ltd.**

**General Meeting at 6.15 pm – Monash University
Lecture Theatre E7, Building 72 (Engineering)
Normanby Road, Clayton North**

See Melways Map 575 (475 in older editions) for locations within Monash University
Parking area adjoins West Ring Road

***Please note new venue**

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Diamond exploration in Australia is made difficult by the nature of much of the regolith overlying the Archaean Cratons. These cratonic regions are characterised by:

- Deep weathering
- Development of laterite and hardpan
- Indicator mineral destruction
- Magnetic and electromagnetic activity
- Metamorphic/ iron-rich terrains, which correlate with busy and heavy concentrates

The result is that these are difficult environments in which to work.

My thesis is that “attention to detail” is central to the success of an exploration program. I shall endeavour to show that if one is working in the right area, and if one takes due care in all the activities that make up an exploration program, then success (i.e. the discovery of kimberlites, hopefully diamondiferous) will follow. If care is taken to treat samples correctly and to obtain small, clean heavy mineral concentrates then there is a better chance of recovering kimberlitic indicator minerals.

This talk will focus mainly upon the kimberlitic indicator minerals recovered during exploration. In particular, surface textural characteristics, mineral chemistry and trace element studies are vital to success. A number of illustrative case studies will be presented and discussed.

**GEOLOGICAL SOCIETY OF AUSTRALIA
VICTORIA DIVISION
GSAV Annual General Meeting Thursday 28 April 2005**

CHAIRMAN'S REPORT FOR 2004–2005

As foreshadowed in last year's annual report, the achievements of 2004-5 could not measure up to those of the previous year. It is not every year we get to publish a landmark book. But despite this, 2004-5 was one of continuing solid work by a very dedicated group of people.

A constant theme through the year was that the GSA needs to be relevant to its members if we are to survive and prosper. At a time when the numbers of practising geologists are falling and the work pressures on those who are left are rising, if the GSA is not relevant then it faces extinction. Your committee have attempted to tackle this in two ways.

The first was to consciously increase the numbers of joint meetings with other societies with significant memberships of earth scientists. The logic behind this was to ensure that the pool of high-quality speakers could address the largest possible audiences. It also ensured that members gained access to a larger pool of talks than previously.

In this context, one important task was to get the planning underway for the 2006 Australian Geological Convention. The conference will be a joint conference with the Australian Society of Exploration Geophysicists. It will be held from 2 to 7 July at the Melbourne Convention and Exhibition Centre, and will be known as the Australian Earth Sciences Convention 2006. The theme of the conference will be 'Resourcing Our Future'. Online registration for papers and the call for abstracts open on 1 June, or in less than 5 weeks. Several dedicated people are working hard to ensure that this conference is successful and, whilst this is having negative effects elsewhere in the Division, the short-term pain is necessary for the long-term benefits to all. In this context I call on all members to consider what they can do to help, even in the most limited way.

The Selwyn Symposium was held jointly with the Petroleum Exploration Society of Australia. The theme of the conference 'Basins, fluids heat, metals' was constructed to allow for a cross fertilisation between the two largest groups of economic geologists. In the event, the conference was only moderately well attended, since it was held on the day with the worst weather that Melbourne had seen for several years. Those who braved the weather were treated to excellent talks. The initial talk, the Selwyn Lecture, was given by Richard Hillis. This talk looked at the way plate motions cause stresses within the plates and so influence the way fractures develop and fluids flow.

At the end of the day, the Selwyn medal was presented to Dr Chris Gray for his continuing thoughtful contributions on Victorian igneous rocks and particularly what their isotopic signatures can tell us. Emily House was awarded the Thomas Medal for her map of an archaeological site in Israel, whilst Craig Stephens was announced as the winner of the Canavan Prize.

In June, John Talent addressed our joint meeting with the Royal Society of Victoria, on A.W. Howitt. The talk was well received and the joint meeting will become a fixture on the GSA calendar.

One meeting that was poorly attended was the excellent public lecture 'Are we alone? The search for extraterrestrial life' by Charley Lineweaver of the Planetary Science Institute, Australian National University, and Malcolm Walter, Director of the Australian Centre for Astrobiology. The poor attendance was due to several factors, some avoidable (like poor and late publicity,

unfortunate choice of venue) others not (inflexibility of dates, publicity lined up was cancelled because the Commonwealth election was called). Your executive will learn from its mistakes.

Members who receive their Victorian Geologist online will also have received notice of AusIMM meetings. These are usually held on the first Tuesday of each month and GSA members are most welcome to attend. We hope to extend this cooperation further in 2005, although plans are still vague at present.

Another concern is that the attendance at the monthly meetings has been in decline for several years. Whilst the Fritz Loëwe Theatre at the University of Melbourne has been the home of these meetings for many years, this has meant that members from Monash and Latrobe Universities have been discriminated against. Your committee has decided to have alternate meetings at Monash over a couple of years to gauge the response. The aim is, if not to increase the numbers at any one meeting, to increase the proportion of members who attend. If you have strong views about this, please speak to your committee. We are, after all, only here to look after your interests.

When the number of geologists is declining and younger people seem, on average, to be less inclined to join groups, a critical concern of your committee is the declining numbers of active young members. To redress this situation, we have started a scheme where the Division will support students to attend conferences that are sponsored by the GSA, up to a maximum of \$400. In return the students should be prepared to present their work to the Division. Rene LaBerge and Adrian Pitari, of the first group of 5 students, presented their talks at the March meeting on topics presented at the IAVCEI conference in Chile. Others will follow.

This scheme is in addition to the free membership given to Honours students, and to the backing given to GeoViSIO, the Victorian universities post-graduate students' geological group Geosciences Victoria Students Industry Organisation. We want them to see that we are vitally interested in them, both individually and as a group. In March, we gave GeoViSIO \$500 to support a visit by 7 students to the Olympic Dam Mine. We intend to back them on similar ventures in the future.

Finally I pay tribute to the dedication and forbearance of the Committee. They have worked tirelessly throughout the year, and are an excellent team. I particularly acknowledge the enormous contribution of Lex Ferguson, a foundation member of the GSA and someone who has formally served the GSA in many roles for 40 years. He has announced that he will step down from his committee responsibilities at this meeting. We wish him well in his 'retirement'.

Don Spencer Jones, another stalwart of the Society, has also decided to step down from his position on the Awards Subcommittee. With the departure of these two we lose almost a century of wisdom. Our challenge is to maintain and build on what they have given us.

David Moore

20 April 2005.

*A list of GSAV meetings for 2004–2005 will be posted on the GSAV website and found via the links <http://www.vic.gsa.org.au/meetings/previous.htm>.

Go to www.vic.gsa.org.au for up-to-date GSAV news

ANNUAL REPORT 2004–2005 HERITAGE SUBCOMMITTEE GSA (VIC)

The committee has continued to work for geological heritage and has an extremely busy and productive year. The committee has currently nine members with a wide range of geological expertise. I thank them for all their work.

Major work for the year can be listed as follows:

- Further advice on significance of sites was given to Melbourne Water. The GSA system of significance and site numbering for sites of significance is used to assist in management decisions. Assistance was given to Melbourne Water for an in-house training video on geological significance.
- Consultation with the Victorian Environmental Assessment Council was held in preparation for further co-operation similar to that with Melbourne Water and GSV. Co-operation occurred with DSE on Forest Management Plans in the Horsham and Portland areas
- The GSAV database had significant numbers of sites entered from the hard copy files. Over 2000 sites are currently entered and work continues in the entering of sites from the hard copy files and published material. We expect that in excess of 3000 sites will have been entered by the end of this year.
- Assessment of sites on the Queenscliff 1:250 000 sheet continued and work is continuing on the Hamilton, Portland and Colac 1:250 000 sheets. The issue of the database and its relation to the now very out of date Geoscience Victoria Sites of Significance Database needs to be addressed. The confusion between excursion sites and sites of significance is of concern.
- The committee continues to be involved in the Committee of Management of the Council Trench Geological Reserve at Bacchus Marsh. We were involved in the development of the Management Plan for the site, which was launched at the end of 2004. We have supported successful small working bees at the site. This continues to be a significant exercise for GSA as we have often been critical of the management of important geological sites and this gives us an opportunity to make a positive contribution to (and an example of the best) management of sites.
- The committee has been involved in management and planning issues with regard to Mt Elephant, The Council Trench, Bacchus Marsh, Lakes Gnotuk and Bullenmerri, the Yea Baragwanathia site, wind farm proposals around Ballarat and rock crushing in the Harman Valley, Western Victoria. Communication with the Landscape committee of the National Trust continues. Concern continues to be felt over consultation with some government departments, especially Parks Victoria and VicRoads. We are currently working on these communication issues. We have been called as expert witnesses to VCAT on inappropriate development in the Harman Valley, Southern Grampians Shire. There is potential to influence management of geological sites through environmental and heritage planning overlays at local government level.
- The subcommittee's guidelines on consulting work and advice to outside organisations by members of the subcommittee have been used. The website material on vegetation and geological sites is appreciated by several consultants and agencies.

A very busy and successful year was had and I sincerely thank all the other members of the subcommittee who have worked so hard to make it so.

Susan White
Heritage Subcommittee
April 2005

Welcome to new members admitted at the April meeting:

Christopher John HuddyMember
Tom BroschMember

Would you prefer to get your *Victorian Geologist* by email?

It is much easier to keep you up-to-date by means of an emailed newsletter. The majority of our members already receive their newsletters by email and we would like others who have email addresses to transfer to this method of delivery.

Just email thomas@unimelb.edu.au to request a changeover.

Some of the email addresses on our membership list appear to have become obsolete. If this applies to you please send your current email address to Lindsay Thomas so that you can continue to receive the newsletter.

GSAV website

The GSAV website (www.vic.gsa.org.au) continues to evolve. If you have any suggestions for further improvements please send them to Lindsay Thomas: thomas@unimelb.edu.au

Newsletter contributions

Please send contributions to Marilyn Moore by the first Friday of each month. Preferably email to me.moore@bigpond.com, otherwise post c/- Geotrack International, 37 Melville Road, West Brunswick Vic. 3055.

The Funneled Web

The Funneled Web (www.the-funneled-web.com) is a website that examines Australia's Higher Education and Research Policies. It promotes the view that learning, knowledge and the application of these are amongst our most valuable assets and should be better nurtured. Links include government, education, media, science and research bodies, both national and international. New material is added once or twice a week.

Books/maps of possible historic interest

If you are interested in purchasing an original *Soil Survey of the County of Cumberland NSW* (1960) with maps, Rutley's *Elements of Mineralogy* (1971) or Read & Watson's *Introduction to Geology* (1970), please contact omargo@optusnet.com.au. Best offers accepted.

GSA (VICTORIA DIVISION) 2005 COMMITTEE

Please address all correspondence to the GSA, Victoria Division
GPO Box 2355V, MELBOURNE, VIC 3001

Web address: www.vic.gsa.org.au

OFFICE BEARERS

Chair:	David Moore	9658 4513 (BH)
Vice-Chair	Stephen Gallagher	8344 6513 (BH)
Secretary	Peter Pritchard	9439 9582
Treasurer:	Lindsay Thomas	0427 354 828

COMMITTEE MEMBERS

Leisa Brough	9727 4898 (AH)
Rob Duncan	9905 4903 (BH)
Geof Fethers	8420 6280 (BH)
Tracy Hassell	0407 113 361
Jodie Miller	
Marilyn Moore	9844 1072
Noel Schleiger	9435 8408
David Taylor	0409 709 920
Fons VandenBerg	9658 4519 (BH)
Sue White	9328 4154
Andy Wilde	9905 1140 (BH)

SUBCOMMITTEE CONTACTS

Awards:	Ingrid Campbell	9486 7160
Bicentennial Gold:	Gerhard Krummei	9820 2595
Education:	Noel Schleiger	9435 8408
Heritage:	Sue White	9328 4154
Membership:	Leisa Brough	9727 4898 (AH)
Newsletter:	Marilyn Moore	9844 1072
Program:	Andy Wilde	9905 1140 (BH)
Publications:	<i>vacant</i>	
Publicity:	<i>vacant</i>	
Webmaster:	Jodie Miller	

OTHER CONTACTS

GEOLOGY of VIC:	Bill Birch	9270 5049 (BH)
GeoViSIO Rep.:	Rob Duncan	9905 4903 (BH)

GSA Inc – For membership and subscription enquiries or change of address, please contact Ms Sue Fletcher.
Business Office: Geological Society of Australia, Suite 706, 301 George St., Sydney NSW 2000
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THE VICTORIAN GEOLOGIST



June 2005

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division
and
THE ROYAL SOCIETY OF VICTORIA
present

The A.W. Howitt Lecture

on

Thursday 23 June

Oceans of Mars: a review of the findings from
NASA's *Spirit* and *Opportunity*
Mars Exploration Rovers

Marion Anderson
School of Geosciences, Monash University

Meeting **7.00 p.m.** at the Royal Society's Hall
9 Victoria Street, Melbourne

Melways Map 1B 1T or www.sciencevictoria.org.au for location details

***Note: this lecture replaces the GSAV June general meeting**

The Royal Society initiated this not-to-be-missed lecture series in 2004 to mark the vital role that the geological sciences have played in the Society's 150-year history. The entry fee of \$15 per person includes light refreshments, which will be served after the lecture.

Bookings essential: either return booking slip herein or phone 9663 5259 to pay at the door.

Synopsis p4, Booking slip p5

TREASURER'S REPORT FOR 2004-2005
presented at the Annual General Meeting held Thursday 28 April 2005

GEOLOGICAL SOCIETY OF AUSTRALIA
VICTORIA DIVISION
TRADING, PROFIT AND LOSS STATEMENT
FOR THE YEAR ENDED 31ST DECEMBER 2004

	This Year	Last Year
	\$	\$
SALES		
Sales	30,461	20,821
LESS COST OF GOODS SOLD		
Opening Stock	115,909	6,771
Closing Stock	79,581	115,909
	36,328	(109,138)
GROSS LOSS FROM TRADING	5,867	(129,959)
EXPENDITURE		
Audit Fees	2,160	2,060
Bank Charges	326	298
Catering & Expenses - Selwyn Symposium	3,885	2,727
Database & Website Costs	150	150
Meetings Supplies etc.	4,292	196
Newsletter Printing	1,599	1,880
Newsletter Posting & Disbursements	2,000	2,645
Publication Costs	3,899	97,133
Postage, Printing & Stationery	351	1,028
Prizes to Students & Grants	4,724	11,632
Storage Fees	-	204
Subscriptions & Memberships	341	-
Travelling Expenses	-	243
Treasurers Expenses	303	-
	24,030	120,196
	(29,897)	9,763
OTHER INCOME		
Trust Distribution	8,891	9,170
Dividends Received	1,571	3,301
Interest Received	2,839	5,372
Capitation Fees	5,178	2,069
Conference - Selwyn Symposium	456	4,520
Other Revenue	1,162	-
Donations	5,682	8,150
Profit on Disposal of Investments	-	(3,983)
	25,779	28,599
NET PROFIT/(LOSS)	(4,118)	38,362

Accompanying notes form part of these financial statements.

BALANCE SHEET AS AT 31ST DECEMBER 2004

	This Year	Last Year
	\$	\$
CURRENT ASSETS		
Deposits - J.B. Were 119032	27,742	2,145
Deposits - J.B. Were 163501	1,288	601
Cash at Bank – NAB	25,846	19,621
Sundry Debtors	2,683	2,714
Trade Debtors	11,345	(21)
Loans - Unsecured – GSA	-	15,000
Investments	141,145	137,780
Stock on Hand	79,582	115,909
	289,631	293,749
TOTAL ASSETS	289,631	293,749
NET ASSETS	289,631	293,749
MEMBER'S FUNDS	289,631	293,749

Accompanying notes form part of these financial statements.

The Accompanying Notes have been omitted from this overview presentation, to save newsletter space. The full financial statement, including the accompanying notes, can be downloaded from the Division website, at <<http://vic.gsa.org.au/Downloads/GSAVFinState04.pdf>> .

INDEPENDENT AUDITORS' REPORT TO THE MEMBERS

FINANCIAL STATEMENTS - 31ST DECEMBER 2004

SCOPE

We have audited the financial statements of the Geological Society of Australia-Victoria Division for the financial year ended 31st December, 2004.

Our audit has been conducted in accordance with Australian Auditing Standards to provide reasonable assurance as to whether the financial statements are free of material misstatement. Our procedures included examination, on a test basis, of evidence supporting the amounts and other disclosures in the financial statements, and the evaluation of accounting policies and significant accounting estimates. These procedures have been undertaken to form an opinion as to whether, in all material respects, the financial statements are presented fairly in accordance with Australian accounting concepts and standards and statutory requirements so as to present a view of the Geological Society of Australia - Victoria Division which is consistent with our understanding of the financial position and the results of their operations.

The audit opinion expressed in this report has been formed on the above basis.

In our opinion, the financial statements of the Geological Society of Australia-Victoria Division are properly drawn up to give a true and fair view of:

- (a) the state of affairs as at 31st December, 2004 and the loss of the society for the year ended on that date; and
- (b) the other matters required to be dealt with in the financial statements; and are in accordance with Statements of Accounting Concepts and applicable Accounting Standards.

Dated this 28th day of April, 2005

(Original signed by Charles Larkin, of Tyshing and Larkin & Associates, Chartered Accountants, Hawthorn.)

The A.W. Howitt Lecture

(From page 1) ... In January 2004, two rovers landed on the surface of Mars. Since then they have been wandering across the surface of the planet, searching for clues to the geologic history of their landing sites. *Spirit* and *Opportunity* were sent to sites on opposite sides of Mars to look for proof of the existence of water, past or present. They were expected to have a life of 90 days, but are now well into their second year of exploration. Their findings have surpassed the wildest dreams of the geologists and engineers that worked on them. Marion Anderson's talk will examine the evidence that *Spirit* and *Opportunity* have sent back to date, our understanding of the geologic history of Mars, and implications for future exploration of the red planet.

FORTHCOMING DATES FOR YOUR DIARY

Baragwanath Seminar

A meeting to honour Owen Pember Singleton is to be held in the Fritz Loewe Lecture Theatre, School of Earth Sciences, University of Melbourne from 2-5 p.m. on Friday 15 July 2005. Colleagues and past students will present their current research as it relates to the many geological interests of Dr. Singleton. Speakers will include Ian Duddy, Mike Sandiford, Bernie Joyce, Doug McCann, Bob Krummel, Jim Bowler and Anne Reeckmann. The seminar will be accompanied by a pictorial display prepared by the History of the geology department Project group in the 4th Floor Common Room.

The seminar will conclude at 5 p.m. with drinks and food in the 4th Floor Common Room, and an evening dinner may be arranged. For catering purposes, please RSVP to Bernie Joyce before 30 June 2005 on 0427 330 117 or ebj@unimelb.edu.au.

SEEGrid Roadshow Project

All interested GSA members are invited to a free-of-charge demonstrator project under SEEGrid on 26 July 2005 at the Theatrette, 1 Spring Street Melbourne, at 9.00 a.m.: 'Interoperability of Government Geoscience Data to the Australian Minerals Industry'.

Supported by AUSIndustry, a collaborative project between CSIRO, Geoscience Australia and Social Change Online has just completed a test bed for real-time data interoperability between data housed in ACT, SA and WA. A further AUSIndustry grant has been obtained to showcase this test bed and to extend it to all remaining states. In Victoria, this work is being undertaken through the Minerals and Petroleum Division of DPI.

The SEEGrid Roadshow project demonstration will consist of an executive briefing and a technology diffusion workshop. These aim to promote the benefits of interoperable services to a broad spectrum of organisations within the industry, public and academic sectors. The executive briefing will deliver a generic overview of interoperable services, what they are and highlight their benefits to industry in terms of real capacity to save resources. The technology diffusion workshop will give a technological demonstration of how the initial test bed was deployed and implemented across three states and two jurisdictions.

Participants need to register with Petra Bowling by phone (08) 6436 8625, fax (08) 6436 8555 or email petra.bowling@csiro.au.

22nd International Geochemical Exploration Symposium

The Association of Applied Geochemists presents the 22nd International Geochemical Exploration Symposium at the Sheraton Perth Hotel in Perth, Western Australia, from 19-23 September 2005. More information and a registration brochure can be found on the conference website: www.promaco.com.au/conference/2005/iges. Enquiries to Michelle Ainsworth, Conference Coordinator, on (08) 9332 2900 or via email to promaco@promaco.com.au

Selwyn Symposium

"Cashing in on the minerals boom" will be the theme of the 2005 Selwyn Symposium, a series of geologically based talks on current mineral exploration in Victoria. Presented by representatives from a number of active exploration and mining companies, these talks will be supported by others giving a geological overview, discussing the financial side of exploration and the role of government in facilitating exploration and mining activity. Lots of ideas here for investors, research partners and geologists looking for employment opportunities in Victoria.

Where: University of Melbourne
When: Thursday 29 September 2005, 9.30 a.m. to 5.00 p.m.
Enquiries: Phone David Taylor on 9658 4622 or email david.taylor@dpi.vic.gov.au

Go to www.vic.gsa.org.au for up-to-date GSAV news

Please email suggestions for website improvements to: thomas@unibelb.edu.au
Lindsay would also like to hear from any members who would prefer to receive their *Victorian Geologist* by email.

Welcome to new member admitted at the May general meeting:

Angela Bush Student Member

Booking slip for A.W. Howitt lecture on 23 June 2005

The Royal Society of Victoria, 9 Victoria Street, Melbourne 3000

Phone 9663 5259

BOOKING SLIP FOR A.W. HOWITT LECTURE

I/we wish to attend at 7 p.m. on Thursday 23 June 2005 and enclose a cheque for \$.....
(\$15 per person) payable to The Royal Society of Victoria.

Names:
.....
.....

GSA (VICTORIA DIVISION) 2005 COMMITTEE

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Marilyn Moore	9844 1072
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Sue White	9328 4154
Andy Wilde	9905 1140 (BH)

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Program:	Andy Wilde	9905 1140 (BH)
Publications:	<i>vacant</i>	
Publicity	<i>vacant</i>	
Webmaster:	Jodie Miller	

OTHER CONTACTS

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GeoViSIO Rep:	Rob Duncan	9905 1127 (BH)

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 Business Office: Geological Society of Australia, Suite 706, 301 George Street, Sydney NSW 2000
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July 2005

**THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division**

Thursday 28 July

**The Bogong 1:100 000 map:
an example of how GeoScience Victoria
makes a geological map**

**Vince Morand
GeoScience Victoria**

General Meeting at 6.15 p.m. - Monash University

Lecture Theatre E7, Building 72 (Engineering)
Normanby Road, Clayton North

See Melways Map 575 (475 in older editions) for locations within Monash University
Parking area adjoins West Ring Road

Making a geological map is a complicated and evolving business. The recently completed Bogong 1:100 000 geological map in northeast Victoria serves as an example of how GeoScience Victoria (GSV) goes about the process. While touching on all aspects of geological map-making, this talk will highlight significant findings that the field mapping has disclosed for this area. The main rock units in Bogong are low-grade Ordovician turbidites, metamorphics derived from them, and various Silurian to Devonian granitoids.

Each GSV mapping project is typically done by a team comprising several geologists, a geophysicist and a cartographer. Before getting into the field, geophysical data are acquired, previous mapping and reports are compiled, and various logistical arrangements are completed.

continued p2

Then comes the fun bit, where we actually do the field work. In Bogong, as in all our projects, we cover as much ground as possible by driving and walking. A Palm Pilot hand-held computer with GPS attached was trialed during the Bogong project, and this is now our standard field tool, although notebooks are still used to record extended outcrop descriptions and drawings. Geophysics is crucial in our map-making. We use airborne geophysics to help draw geological boundaries between observation points, to outline buried units, and to guide us to interesting areas. In Bogong several new plutons have been found using either the magnetics (Carruno Tonalite, Dinner Plain Tonalite, High Tops Tonalite, Red Hut Tonalite) or radiometrics (Boorgunyah Granite, Faithfuls Leucogranite), while others with no distinctive geophysical signature were delineated by standard field mapping (Cobungra Granite, Wollonaby Granite).

A newly mapped shear zone, the Nelse Shear Zone, is a 30 km long, 2 km wide dextral strike-slip mylonite zone that has no geophysical or topographic expression. It has been mapped by driving and walking around and banging rocks with a hammer – still the most useful mapping technique (in Victoria at least).

When the field mapping is complete, the maps (geological and geophysical) and cross-sections are drawn by geologists and then digitised by cartographers, field data entered into our database (this now occurs after each field trip), stratigraphic columns and other map face diagrams are completed. Preliminary maps produced by our cartographers go through three stages of internal peer review, the first two dealing with geological ideas, interpretations and presentation of information, while the last is a proof review checking the maps for cartographic errors. Finally the maps are released to the public amid much fanfare and merrymaking.

SELWYN SYMPOSIUM 2005

* Cashing in on the minerals boom *

The Selwyn Symposium for 2005 – “Cashing in on the minerals boom” – will be held at the University of Melbourne on Thursday 29th September 2005.

The minerals industry is currently undergoing a boom period with lots of activity. This year's Symposium is designed around a series of geologically based talks on current mineral exploration in Victoria. Presented by representatives from a number of active exploration and mining companies, these talks will be supported by others describing a geological overview, the styles of mineralisation and its economics, plus some industry and government commentary on the exploration and mining activity. Lots of ideas here for investors, research partners and geologists looking for employment opportunities in Victoria.

Companies providing speakers include Ballarat Goldfields (Ballarat), Bendigo Mining (Bendigo), Leviathan Resources (Stawell) and Perseverance Corporation (Fosterville), plus several smaller companies. Program and venue details will be published in the August edition of *The Victorian Geologist*.

Enquiries: david.taylor@dpi.vic.gov.au

BICENTENNIAL GOLD 88 ENDOWMENT REPORT FOR THE YEAR 2004

There were four successful applicants for grants from this Endowment for 2005. These awards cover research projects, technical excursions by undergraduate students and conference presentation.

A total of \$10 000 was distributed among the successful applicants:

***The University of New England:** to assist with costs associated with a technical field excursion to New Zealand for 12 undergraduate geology and geomorphology students.

***The University of Melbourne:** to assist a PhD student with costs to present two papers on the Stawell Gold Mine at STOMP, Townsville.

***LaTrobe University:** to assist a PhD student with XPS analyses of acid rock sludges.

***University of Ballarat:** to support the cost of initial field work of a research project on the timing and controls of opal distribution in the Eromanga Basin.

The assistance of Prof. David Grey and Ms Ingrid Campbell with the screening process is gratefully acknowledged. Thanks also to Ms Carmel Murphy and Ms Monica Sarder for their secretarial support.

Gerhard K. Krummei
Chairman - Working Group
Bicentennial Gold 88 Endowment

GEOLOGICAL HERITAGE SUBCOMMITTEE

As convener Sue White is travelling, Bernie Joyce has provided the following brief comments:

The Subcommittee met on the 1st June 2005, and some matters of interest were:

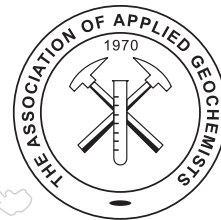
1. The Baragwanathia fossil site at Yea is to be discussed soon at a Tribunal hearing into a proposed development, and a letter will be submitted from the Subcommittee.
2. The Subcommittee's data base now has some 2000 sites entered.
3. Subcommittee member Bernie Joyce is also a member of the Landscape Committee of the National Trust (Victoria) where he is working on problems of development on the young volcanic cones north of Melbourne. These volcanoes are now conveniently listed with their heritage values on a government web site: <http://www.dpi.vic.gov.au/vro/>
(Then search under successive headings e.g. regional, Port Phillip, landforms.)

Other news of current volcanic heritage problems, at Byaduk, and lakes Gnotuk and Bullenmerri, are discussed in the NVP Newsletter No. 21 - see:
<http://web.earthsci.unimelb.edu.au/Joyce/volcanicrisk/NVPNews.html>

For further news, check the Division's heritage site at: <http://vic.gsa.org.au/heritage.htm>

Finally, it was a busy week for geological heritage in early July 2005, with many media enquiries about the collapse of one of the Twelve Apostles. A summary of a week of interviews and reports, and some lessons learnt, will be provided for the next edition of *The Victorian Geologist*.

THE ASSOCIATION OF APPLIED GEOCHEMISTS presents the
22ND INTERNATIONAL GEOCHEMICAL EXPLORATION SYMPOSIUM
incorporating the
1ST INTERNATIONAL APPLIED GEOCHEMISTRY SYMPOSIUM



22nd
IGES
2005

from Tropics to Tundra

Sheraton Perth Hotel
Perth, Western Australia
19 - 23 September 2005

Symposium Themes:

- Regolith - the continuum; from tropics to tundra.
- Discovery case histories and geochemical exploration in tropical, temperate and glacial terrains.
- Geochemical explorations brave new world. Seeing through transported overburden, mechanisms of metal mobility.
- Environmental geochemistry, its interaction with exploration.
- Geochemistry of mineral deposits: isotope and hydrothermal geochemistry.
- Data, our raw materials: analysis, QAQC, data management, data processing.



Pre/Post Field Excursions:

Geochemistry of the South West

Investigate several mines in southwest WA, including Au, Al and tantalite. Field observations on the importance of geochemistry for agriculture.

Lachlan Fold Belt - Regolith, Gold and Shiraz, NSW

A five-day excursion to various mineral deposits and regolith exposures in the picturesque Lachlan Fold Belt of New South Wales, including Cadia, North Parkes and Cobar. Depart/return Sydney.

Geochemical Exploration in the Eastern Goldfields of WA

Introduction to major Au and Ni mines in the Eastern Goldfields. Discussion of geochemistry, mineralogy, regolith science and remote sensing for exploration.

**REGISTRATION BROCHURE AVAILABLE
AND ALSO ONLINE**

Further Information

Secretariat: **Promaco Conventions Pty Ltd**
PO Box 890, Canning Bridge, WESTERN AUSTRALIA 6153
Tel: + 61 8 9332 2900 Fax: + 61 8 9332 2911
Email: promaco@promaco.com.au

www.promaco.com.au/conference/2005/iges

Pre/Post Workshops

- Mineral exploration using groundwater geochemistry
- Interpreting Geochemical data
- Regolith mapping
- Application of geochemistry to mine closure
- Partial leaches in exploration and environmental geochemistry
- Managing your data - every bit counts

FORTHCOMING DATES FOR YOUR DIARY

Baragwanath Seminar

Meeting this Friday, 15 July 2005, from 2-5 p.m. in the Fritz Loewe Lecture Theatre, School of Earth Sciences, University of Melbourne, to honour Owen Pember Singleton. OPS has inspired colleagues and students alike: come and hear details of their current research, and reminisce over a pictorial display of the history of the Geology Department. Drinks etc. to follow. Please RSVP to Bernie Joyce on 0427 330 117 or ebj@unimelb.edu.au ASAP.

SEEGrid Roadshow Project

'Interoperability of Government Geoscience Data to the Australian Minerals Industry', will be demonstrated free-of-charge on 26 July 2005 at the Theatre, 1 Spring Street Melbourne, at 9.00 a.m. Details in June edition of *The Victorian Geologist*, available online at www.vic.gsa.org.au. Participants need to register with Petra Bowling by phone (08) 6436 8625, fax (08) 6436 8555 or email petra.bowling@csiro.au.

Australian Earth Sciences Convention 2006 – "Resourcing Our Future"

When: 2-6 July 2006
Where: Melbourne Convention and Exhibition Centre
Details: www.earth2006.org.au

The Geological Society of Australia and Australian Society of Exploration Geophysicists have combined resources to organise a convention that will contribute to the positive future of the natural resources industry, the educational, research and government service sectors and of both societies. The Australian Earth Sciences Convention 2006 is an opportunity for academic and professional geoscientists to promote and advance their science by interacting with their peers, members of the learned societies and scientists from other disciplines.

Themes include mineral resources, energy resources, environmental and engineering geoscience, geodynamics of the earth's evolution, resourcing geoscience and innovation in geoscience. Also workshops, excursions and a trade exhibition. Something for everyone! Early bird registration closes 28 February 2006.

First call for abstracts: submission deadline Thursday 15 December 2005. No late acceptances.

Conference office: The Meeting Planners, 91-97 Islington St Collingwood Vic 3066
Phone: +61 3 9417 0888
Email: earth2006@meetingplanners.com.au

continued

AIG Victoria – Core Logging Symposium

When: 7 September 2005
Where: Big Hill Vineyard, Bendigo

Featuring core displays from Victoria's significant deposits, this symposium provides a forum to discuss aspects of core handling, logging, sampling, storage and geological interpretation. Exploration is thriving in Victoria and drilling is underway throughout the state. Fosterville has recently joined Stawell as a Victorian gold producing site. Bendigo and Ballarat are moving towards production. Approval for an open cut has recently been granted at Costerfield. Each participating company will provide a display of core of economic, structural or other significance.

Companies participating in the AIG Core Logging Symposium include: Bendigo Mining (Bendigo); Ballarat Goldfields (Ballarat); Alliance Resources (Maldon); Goldstar Resources (Walhalla); Leviathan Resources (Stawell); Perseverance Corporation (Fosterville); Goldfields Australasia (Lockington); Alexander Resources (Chewton); Synergy Metals (Glen Wills); and AGD Mining (Costerfield). Interstate participants include Beaconsfield Gold (Beaconsfield) and Straits Resources (Hillgrove).

Enquiries, registration forms and payment to:
Rodney Boucher, AIG Victorian Treasurer, 2 McGowan St, Bendigo Vic 3550.
Phone: 0417 506 051 Email: rodney@linex.com.au

GSAV/AusIMM-sponsored students visit Olympic Dam

The Geosciences Victoria Student Industry Organisation (GeoViSIO) is a club that brings together students from Victorian-based universities to interact with the minerals industry. GeoViSIO is a student chapter of the GSA and as such, sought sponsorship from the society to contribute to a recent trip to WMC's (now BHP's!) spectacular Olympic Dam Operation. This deposit is a world-class Proterozoic copper-uranium-gold-silver deposit, located in South Australia approximately 520km north-northwest of Adelaide.

Seven students from three universities partook in this trip (30th of March until the 1st of April). Activities included an underground and above ground tour of the plant, as well as a visit to the WMC-sponsored Arid Recovery Zone. This is a fenced-off property that houses reintroduced flora and fauna that was once eradicated by feral pests. Endangered marsupials such as the bilby and burrowing bettong thrive in this little sanctuary.

On site, the students were treated to a background geology presentation of the Olympic Dam Deposit, including details on the Proterozoic sedimentary cover sequence, the brecciated syenogranite that hosts the majority of the mineralisation and also the engineering procedures and challenges that are faced when recovering the resource. Helmets and overalls were then donned to observe the underground declines, stopes and spectacular rock outcrops that characterise this deposit. The trip definitely didn't stop there! Back on the surface we walked through the impressive plants that processed the ore into its respective metallic commodities. This included the milling, smelting and electroplating plants.

For the majority of students, this was their first trip to a working mining operation. All students came out with a much better appreciation of what a modern mining operation comprises. Our great thanks go to WMC-Olympic Dam Operations for facilitating the visit (especially Amanda Whitehead) and to GSAV and AusIMM for sponsoring us. Lastly, thanks to all at the Roxby Downs Caravan Park, local pub and Andamooka Tourist Information Centre. The hospitality was fantastic.

Anthony Morey, PhD student, Monash University

Go to www.vic.gsa.org.au for up-to-date GSAV news

Please email suggestions for website improvements to: thomas@unimelb.edu.au

Lindsay Thomas would also like to hear from any members who would prefer to receive their Victorian Geologist by email. The majority of our members already receive their newsletters by email, as it is easier to keep in touch with updates etc. if we have your email address.

Mars on-line

Anybody who went to The A.W. Howitt Lecture at the Royal Society last month will tell you what a riveting slideshow Marion Anderson delivered. Check out the adventures of NASA's *Spirit* and *Opportunity* rovers on the following websites:

- <http://marsrovers.jpl.nasa.gov>
- <http://www.msss.com>
- <http://themis.asu.edu>

Unfinancial members

If you are one of the twenty-four unfinancial members who receive this newsletter by post, then this will be your last issue. To avoid dropping off the GSA mailing list, please renew your subscription now. Contact details for the GSA business office are on the back page.

From the editor

Your copy of *The Victorian Geologist* looks no different from past issues, but a fair bit of work has gone on behind the scenes to update publication methods. The current format is cheaper to produce and more flexible in its delivery – a limited number of photographs and advertisements, for example, can now be included. There is no plan, at present, to alter the format of the newsletter. The existing layout has served us well, and in any case it needs to be kept simple to minimise download times for those who receive the newsletter by email.

Please send contributions and/or comments to Marilyn Moore at me.moore@bigpond.com. Deadline for newsletter contributions is the first Friday of each month. If you'd rather use Australia Post, please mail contributions c/- Geotrack International, 37 Melville Road, West Brunswick, Victoria 3055.

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Publications:	<i>vacant</i>	
Publicity	<i>vacant</i>	
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PRINT POST APPROVED

August 2005

**THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division**

Thursday 25 August

Where is the next Broken Hill Zn-Pb-Ag deposit?

Professor Ian R. Plimer

General Meeting at 6.15 p.m. - Melbourne University

Fritz Loewe Theatre, Earth Sciences Building, cnr Swanston & Elgin Sts.

Preceded at 5.30 p.m. by drinks and nibbles in the tea-room, 4th floor. \$2/person.

The last 25 years at Broken Hill have seen a greater understanding of the geology, geophysics and genesis of the world's greatest base metal deposit. Broken Hill has been the testing ground for new technologies. The unique mineralogy, chemistry, tectonic setting, stratigraphic control, sedimentology and magmatism constrain both the genesis and setting of Broken Hill. This talk presents an integration of all the disciplines of earth sciences used at Broken Hill.

Go to www.vic.gsa.org.au for up-to-date GSAV news

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SELWYN SYMPOSIUM 2005

* Cashing in on the minerals boom *

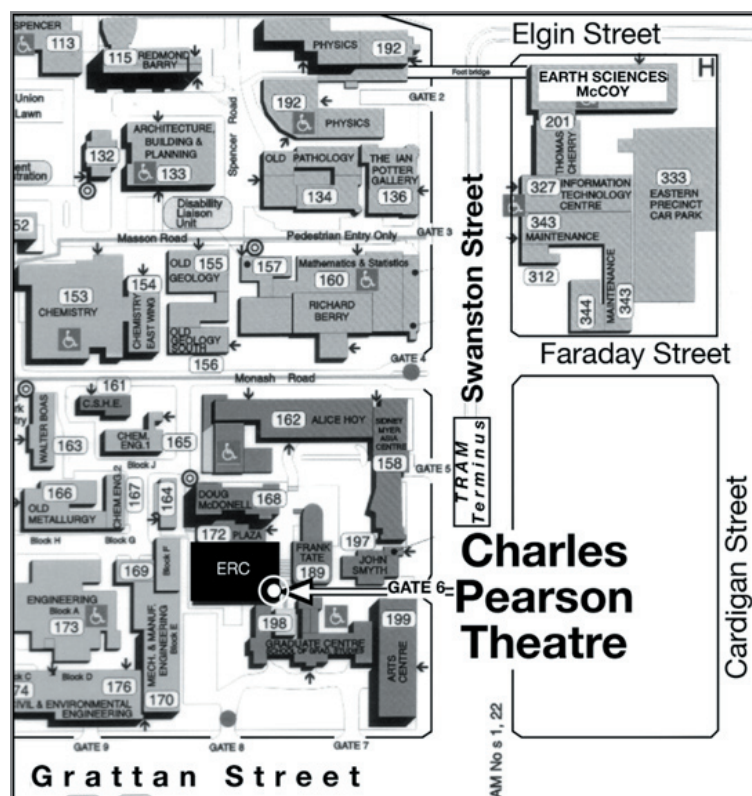
The Selwyn Symposium for 2005 – “*Cashing in on the minerals boom*” – will be held in the Charles Pearson Theatre at the University of Melbourne on Thursday 29th September 2005. Registration opens at 8.50 a.m. for a 9.15 a.m. start. This is a significant annual event on the Division calendar, and this year's program has been designed around a series of geologically based talks on current mineral exploration in Victoria. Lots of ideas for investors, research partners and geologists looking for employment opportunities.

Keynote speakers: Clive Willman (DPI) will give a geological overview and Neil Phillips (University of Melbourne) will focus on mineralisation and economics.

Industry speakers: Bendigo Mining (Gary Johansen), Sedimentary Holdings (Barry Goss), Leviathan Resources (Geoff Lowe), Goldstar Resources, Oroya Mining, Perseverance Corporation (Neil Norris), AGD Mining (Ray Hazeldene), Reedy Lagoon Corporation Ltd. (Geof Fethers), Alexander Resources (Brian Cuffley), Ballarat Goldfields (Steve Olsen).

The final afternoon session will bring perspective to the roles of Predictive Mineral Discovery CRC Research (Bob Haydon), the Victorian Government (speaker from the Department of Primary Industry), and the Mining Council of Australia (Chris Fraser). The Symposium will wind up with a forum, drinks and discussion.

Selwyn Lecture: Tom Whiting (BHP-Billiton) will deliver the 2005 Selwyn Lecture at 6.15 p.m. in the Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne: *Tomorrow's exploration challenges for today's Megaminers*. Note that this lecture will replace the September General Meeting of the GSAV.



Cost: \$80 for the symposium (\$30 for full-time students and retirees). Admission to the Selwyn Lecture is free.

Enquiries: Stephen Gallagher
sgall@unimelb.edu.au
8344 6513 (BH)

Bookings: bookings for the symposium are essential. There is a booking slip on page 7 of this newsletter.

MORE DATES FOR YOUR DIARY

From Hell to the Himalayas: a public lecture by Professor Mark Harrison FAA

When: Thursday 18 August 2005, 6.00 p.m. (Refreshments at 5.30 p.m.)
Where: Shine Dome, Gordon Street, Canberra
Details: <http://www.science.org.au/events/18august05/htm>.

Join the Director of the Research School of Earth Sciences at ANU on a journey through time, exploring the geological history of the Earth. Travel from Earth's "hellish" first 500 million years to the evolution and origins of the mighty Himalayas. Stimulate your mind with this provocative talk and discover that hell wasn't as bad as we thought. This lecture forms part of the Australian Science Festival (13-21 August 2005).

Einstein's microscope: illuminating billion-year-old rocks

When: Wednesday 7 September at 7.30 p.m.
Where: South One Lecture Theatre, Building 64, Monash University Clayton Campus
Parking: Free. Melway ref 575 (475 in older editions)

Dr Andy Wilde's lecture, *Einstein's microscope: illuminating billion-year-old rocks*, is the fourth in a series of six free public lectures themed ***Einstein's Lighthouse: the Australian Synchrotron***. This fascinating series begins on Wednesday 17 August. Check out <http://www.sci.monash.edu.au/news/050318html> for details. Bookings are essential:

Via the internet: <http://www.sci.monash.edu.au/lectureseries/index.html>
By phone: 9905 4613
By email: lectureseries@sci.monash.edu.au

AIG Victoria – Core Logging Symposium

When: Wednesday 7 September 2005
Where: Big Hill Vineyard, Bendigo

Featuring core displays from Victoria's significant deposits, this symposium provides a forum to discuss aspects of core handling, logging, sampling, storage and geological interpretation. Details of participating companies are listed in the July edition of *The Victorian Geologist*.

Enquiries, registration forms and payment to:

Rodney Boucher, AIG Victorian Treasurer, 2 McGowan St, Bendigo Vic 3550.
Phone: 0417 506 051 Email: rodney@linex.com.au

Geological Society of Australia Annual General Meeting

When: Wednesday 28 September 2005 at 5.00 p.m.
Where: Main Geology Lecture Theatre (Room 211), School of Earth Sciences, University of Tasmania (Earl Street entrance), Sandy Bay.
Details: Copies of the 2005 agenda and the 2004 minutes and accounts are available from Sue Fletcher at the GSA on sue@gsa.org.au

continued on page 6 ...

GEOLOGICAL HERITAGE SUBCOMMITTEE

Coastal processes at work ...



On Sunday 3 July 2005, sometime between 9.18 and 9.19 a.m., the “twelfth” apostle crumbled into the sea. The LH picture shows a large vertical crack opening up in the stack. To the right of the crack, the bulk of the stack leans towards the shore. The RH picture was taken about a minute later. Photos reproduced courtesy of Parks Victoria.

The saga of the 12th Apostle: lessons learnt from a media flurry

by Bernie Joyce

Member and former convener of the Geological Heritage Subcommittee

Media interest in the fall of a rock stack in the well-known Twelve Apostles group of the Port Campbell coast in July was very high, both locally and overseas. As Sue White (convener of the GSAV Geological Heritage Subcommittee) was away, enquiries were passed on to me. Enquiries also came via the University of Melbourne’s media contact web page, and via telephone calls to the University. As well as the media coverage detailed below, CNN.com had a report taken from various sources, as did the Fairfax Press. I’ve been told the collapse featured in the British papers, probably as an AAP release, which drew on various reports, but not my interviews.

People were interested in the mechanism of what had happened. How old were the rock stacks? Why did this one fall? What was the trigger? Eric Bird’s 1993 book, *The Coast of Victoria*, had much useful information, including evidence for rates of cliff and rock stack retreat. I used a set of notes made from Bird and other sources covering the geology, waves, tides, past falls, rates of erosion and cliff retreat, and estimates of the age of the rock stacks. I tried to ensure that the GSA work on heritage was acknowledged wherever possible, but was not always successful in this.

Here is a condensed chronological record of what happened, and some lessons learnt.

Sunday 3rd July: the collapse occurred about 9 am, and it didn’t take long for the phone to start ringing. I was contacted by Alex Green (National Parks Ranger), Michael Day of *The Australian* and Peter Michelborough of *The Herald Sun*. Articles duly appeared in Monday’s papers.

Monday 4th July: this turned out to be a very busy day, with many radio and TV interviews. *The Age* and *The Herald Sun* were gearing up for in-depth articles in Tuesday's papers. ABC Online also published a short article.

- Professor Andrew Gleadow spoke on ABC 774's breakfast program.
- 8.45 a.m.: phone interview with Kirsty Broadmore on ABC local radio at Warrnambool (Ballarat 1079).
- 8.55 a.m.: phone interview with Alex Caran from ABC news in Melbourne (Radio 774).
- 9.35 a.m.: Phone interview with Garth Russell of ABC Newcastle.
- 10 a.m.: another phone call from Ballarat 1079 with follow-up questions.
- 10.30 a.m.: Tamara Day from ABC television arrived with cameramen at the University of Melbourne, and an interview was conducted in the Fritz Loewe Lecture Theatre in front of Hills's topographic model of Victoria, dramatically lit by the crew. Of these 20 minutes or so, about one minute appeared on the ABC 7 p.m. news that night, and that mainly focussed on whether a helicopter had triggered off the collapse.
- 11 a.m.: Steve Caughi of *The Age*, who had written an article for that morning's paper, phoned to clear up some misunderstandings. He was amazed at the fast rates of retreat, and asked me to check the piece he was writing for Tuesday's *Age*. I faxed him a black and white diagram from Bird's book, asking him to mention the source. His article and a coloured redraft of Bird's diagram appeared in Tuesday's *Age* and was a very acceptable account. It also became available on *The Age*'s web site.
- 11.20 a.m.: Alex Green phoned to discuss rock stack stability and rates of erosion.
- 12.30 p.m.: Jeremy Pudney and a crew from Channel 10 arrived for an interview. This time I used the First Year Laboratory, empty for the semester break. A piece of Port Campbell Limestone was on the display bench and also some maps, just by chance, so we used these. Virtually none of this material appeared on the TV news that night.
- 2.30 p.m.: James Talia and a Channel 9 camera crew arrived. The main questions concerned how often collapses might occur, and what was the cause. I said that the helicopter would be an unlikely trigger. Only a short account appeared on the TV news that night.
- 5 p.m.: *The Herald Sun* rang to discuss an article for Tuesday's paper.
- 6 p.m.: phone interview with Sue Ramore on ABC Drive Time in Adelaide.

Tuesday 5th – Thursday 7th July: media interest continues

- 8.15 am on 5th July: 3AW 1278 interview by phone.
- mid-morning: Hanna Mills of the *Warrnambool Standard*. Good discussion of the overall story, and I later received copies of the article in the post (an exception, as most media will provide little in the way of video, tapes or print copies, even when requested). I also received a copy of another interview in the same paper a day earlier by Jack Douglas, now in retirement at Warrnambool.
- MMM/Fox recorded an interview by phone for later broadcasting.
- Request from Canadian Broadcasting Corporation Radio in Toronto for an interview by phone. This finally happened at 12.45 am Wednesday morning. The interview was not for radio, but for posting on the web where it could be streamed to a computer.
- Phone discussion with *The Sunday Herald Sun*.
- A long and detailed phone interview with Elissa Kelly of *The Geelong Advertiser*. This seemed satisfactory, but I've not yet seen a published article.

Lessons learnt from dealing with the media

- It's a lot of work, often with little to show for it, particularly in the case of TV interviews.
- Print media can be more satisfactory, particularly if you can check what is to be published.
- Live radio interviews give you some control over what is heard, but be prepared for levity on the afternoon drive programs!
- Never say anything you don't want quoted (remember "Yes, Minister"!). For example, in recording a TV interview, you might say (in response to a question) "A helicopter might trigger the fall of a rock stack, but it would be most unlikely". After editing, this will appear on the TV news as "A helicopter might trigger the fall of a rock stack". So just keep repeating what you want them to use, as politicians do, and nothing more.

Shortcourse in volcanic processes, products, successions & resources: modern and ancient systems

When: 27 November - 3 December 2005
Where: Residential course at Black Dolphin Motel, Merimbula
Details: Contact Ray Cas on 9905 4884 / 9905 4897 or ray.cas@sci.monash.edu.au

This professional shortcourse is presented by Monash University Volcanology Research Group; the Australian Crustal Research Centre; the School of Geosciences at the University of Rome; and the Predictive Mineral Deposits Cooperative Research Centre. Run annually since 1982, this regularly updated course includes three days of lectures (including practical work) and two outstanding field days for geoscientists from industry and government as well as researchers and academics – anyone who needs to understand physical volcanic processes, deposit characteristics, the identification of rock types and their emplacement origins, facies and stratigraphic architecture of volcanic and sub-volcanic successions, rock unit relationships and timing. **Book now:** numbers are limited and the early bird fee applies only until 30 August. Contact Professor Ray Cas for brochure and booking form, or email meaghan.mcdougall@sci.monash.edu.au.

Australian Earth Sciences Convention 2006 – “Resourcing Our Future”

When: 2-6 July 2006
Where: Melbourne Convention and Exhibition Centre
Details: www.earth2006.org.au

Themes include mineral resources, energy resources, environmental and engineering geoscience, geodynamics of the earth's evolution, resourcing geoscience and innovation in geoscience. Also workshops, excursions and a trade exhibition. Something for everyone! Submission deadline Thursday 15 December 2005. Early bird registration closes 28 February 2006.

Conference office: The Meeting Planners, 91-97 Islington St Collingwood Vic 3066
Phone: +61 3 9417 0888
Email: earth2006@meetingplanners.com.au

The GSAV needs more promotional materials: can you help?

From time to time the GSAV sets up booths promoting earth science at events such as the Geography Teachers Conference and the VUEESC Students Day. As Geoscience Australia (formerly a significant provider) is now moving in the direction of putting promotional material on their website rather than printing hard copy, the GSAV really needs to put some thought and effort into developing materials for future events. How can we promote earth science in a relevant and modern way? We cannot leave this to just a couple of people to sort out at the last minute each time an event arises. We need to make a collective effort via an initiative that possibly combines with other organizations for mutual benefit. Earth sciences are increasingly being dropped from classroom delivery. We need to find ways to get the next generation interested!

In the short term, if you can help in any way, please contact Leisa Brough on 9727 4898 (AH). In the longer term, the GSAV Publicity Subcommittee is presently vacant, and the Education Subcommittee also needs more members. Please contact David Moore on 9658 4513 (BH) if you are able to help the GSAV rise to this challenge.

The GSAV website continues to evolve ...

Please email suggestions for improvements to: thomas@unimelb.edu.au. New on the website this month will be the PowerPoint presentation that Bernie Joyce gave at the July general meeting. Focussing on the recently collapsed Apostle near Port Campbell, Bernie's talk dramatically illustrated the rapidly changing shape of Victoria's southwestern coastline. The Twelve Apostles are probably not so very old after all.

Lindsay Thomas would also like to hear from any subscribers who would prefer to receive their *Victorian Geologist* by email. The majority of members already receive their newsletters by email, as it is easier to keep in touch with updates and notices.

New members

Welcome to new members admitted at the July meeting:

Michael Carew	... Ordinary Member
Michael Mong	... Student Member
John Stewart	... Student Member

Newsletter contributions

Please send contributions and/or comments to Marilyn Moore at me.moore@bigpond.com or mail c/- Geotrack International, 37 Melville Road, West Brunswick, Victoria 3055. Deadline for newsletter contributions is the first Friday of each month.

Booking slip for Selwyn Symposium on 29 September 2005

The Selwyn Symposium of the Geological Society of Australia (Victoria Division)

c/- Dr. Stephen Gallagher

School of Earth Sciences, University of Melbourne, Parkville Victoria 3052

BOOKING FORM

I/we wish to attend the Selwyn Symposium on Thursday 29 September 2005 and enclose a cheque for \$..... payable to The Geological Society of Australia (Victoria Division). (\$80 per person; \$30 for full-time students and retirees)

Names and affiliations:

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Newsletter:	Marilyn Moore	9844 1072
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Publications:	<i>vacant</i>	
Publicity	<i>vacant</i>	
Webmaster:	Jodie Miller	

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THE VICTORIAN GEOLOGIST



September 2005

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

presents the

SELWYN LECTURE

Thursday 29 September

Tomorrow's exploration challenges for today's megaminers

Tom Whiting
BHP-Billiton

6.15 p.m. at Melbourne University

Fritz Loewe Theatre, Earth Sciences Building, cnr Swanston & Elgin Sts.

Preceded at 5.30 p.m. by drinks and nibbles in the tea-room, 4th floor. \$2/person.

**Please note that the Selwyn Lecture replaces the September General Meeting*

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Tower Hill vista at risk ... 4
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CASHING IN ON THE MINERALS BOOM

Selwyn Symposium

Thursday 29th September 2005

Charles Pearson Theatre
at the University of Melbourne
Registration opens at 8.50 a.m. for 9.15 a.m. start.

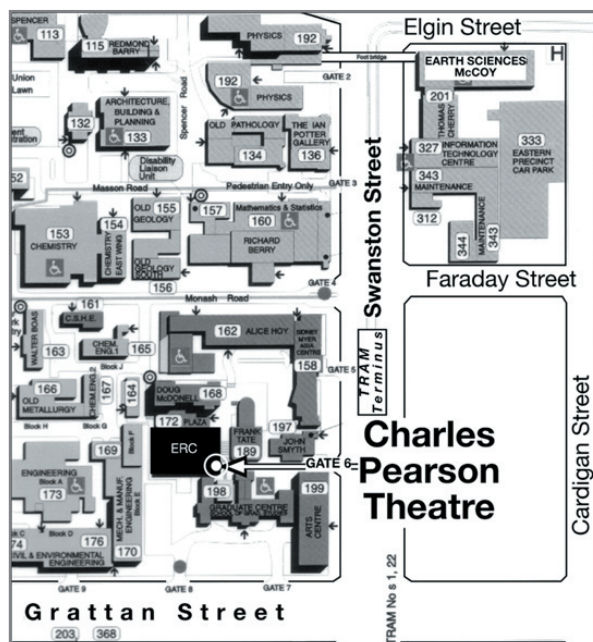
Keynote speakers: Clive Willman (DPI) & Dr Neil Phillips (University of Melbourne)

Industry speakers: Bendigo Mining (Gary Johansen), Sedimentary Holdings (Barry Goss), Leviathan Resources (Geoff Lowe), Oroya Mining, Perseverance Corporation (Neil Norris), AGD Mining (Ray Hazeldene), Reedy Lagoon Corporation Ltd. (Geof Fethers), Alexander Resources (Brian Cuffley), Ballarat Goldfields (Steve Olsen).

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Enquiries: Dr Stephen Gallagher (BH) 8344 6513
Email: sjgall@unimelb.edu.au

BOOK NOW!



Selwyn Lecture: Dr Tom Whiting (BHP-Billiton) will deliver the Selwyn Lecture at 6.15 p.m. in the Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne: *Tomorrow's exploration challenges for today's Megaminers*. Note that this lecture will replace the September General Meeting of the GSAV.

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c/- Dr. Stephen Gallagher

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Names and affiliations:

.....

.....

.....

**The GSA (Vic Division) OCTOBER GENERAL MEETING
will be held on Thursday 6 October****The Society of Exploration Geologists
2005 Thayer Lindsley Distinguished Lecturer****David Cooke**

**El Teniente porphyry copper-molybdenum deposit, Chile:
formation of the world's largest porphyry copper-molybdenum deposit
in an active continental margin**

6.15 p.m. at the University of Melbourne

Fritz Loewe Theatre, Earth Sciences Building, cnr Swanston & Elgin Sts.

Preceded at 5.30 p.m. by drinks and nibbles in the tea-room, 4th floor. \$2/person

**This replaces the usual meeting on the last Thursday of the month*

2005 SELWYN MEDALLIST: A.J. CRAWFORD

Tony Crawford's outstanding contribution to the comprehension of Victorian geology is in the area of the petrology and geochemistry of Cambrian igneous rocks and their implications for Victorian and Lachlan Fold Belt tectonics. Both his honours and doctoral studies were focused on the linear exposures of upthrust Cambrian rocks that frame much of Victoria's Palaeozoic geology and, in the years since, he has continued with this work and published a series of important papers on Victorian geology and the wider Lachlan Fold Belt.

Virtually nothing was known of the geochemistry of Victoria's Cambrian metavolcanics before Tony undertook his BSc(Hons) and PhD studies at the University of Melbourne. Those studies and his subsequent research permitted the recognition of three geochemical-tectonic associations within the metavolcanics: a latest Neoproterozoic rift-drift group, an intra-oceanic arc group, and a post-collisional group. Recognition of these associations has provided a means to relate the Victorian Palaeozoic and uppermost Neoproterozoic to parts of Tasmania, South Australia and New South Wales. Conversely, mafic-ultramafic complexes similar to the Cambrian igneous rocks of Victoria which Tony has studied in Tasmania are much better preserved there and permit the drawing of conclusions about Victorian tectonics beyond those reasonable if based on Victorian rocks alone.

Tony made the important recognition of the presence of boninitic basalts amongst the Cambrian metavolcanics of Victoria. Boninites, distinctive high-magnesium basalts that are named after the Bonin volcanic arc in the western Pacific, are understood to be characteristic of an intra-oceanic island arc-backarc basin setting. His conclusion that the Lachlan Fold Belt (LFB) developed in such a tectonic setting is now supported in one form or another by most students of the LFB. Meanwhile, the interest in boninites stimulated by the Victorian rocks resulted in Tony's editing the major reference on boninites (*Boninites and Related Rocks*, 1989, Unwin Hyman Ltd., London).

Industrial interest in the application of his broader LFB work to exploration in Victoria has fed demand for his workshops on the relation among petrology, geochemistry and fold belt evolution. His comparison of the Stavelly volcanics in western Victoria with the richly mineralised Mt Read Volcanics of Tasmania has revealed strong similarities between the two.

TOWER HILL VISTA AT RISK

GSAV appeals against approval for inappropriate development near crater rim



Tower Hill: aerial photography by Neville Rosengren

by Susan White

Convenor Standing Committee Geological Heritage (GSA)

Convenor Geological Heritage Subcommittee (GSAV)

A serious problem has arisen in the Shire of Moyne with the approval of inappropriate development adjacent to the edge of the Tower Hill crater. It is proposed that a house and large shed be built high in the landscape of the southern rim. This is the lowest part of the crater rim and is one of the main views to the secondary volcanoes in the centre of the crater. Although some buildings already occur low on the slopes, this is the first application to build high on the outer slope of the crater. The GSA, in conjunction with the National Trust and several local residents, will be appealing the decision at VCAT.

Tower Hill is a basaltic maar volcano. Its morphology includes a 90m high outer rim composed of interbedded ash, lapilli and scoria, a lake and three central islands of coarse lapilli, spatter scoria and minor lava flows. Features formed by “phreato” magmatic eruptions typify the stratigraphy of the outer rim. These include accretionary lapilli layers, base surge cross-bedding, planar-bedded and massive airfall deposits, limestone and basalt bombs and a local unconformity. It is regarded as one of the youngest and the best-preserved maars in Victoria, and is amongst the largest known in the world. The proposed buildings are too high on the crater wall. Such buildings, and any others that might later be proposed, should be built much lower down the slope and closer to the main road, so as not to obstruct the overall view of the shape of the crater’s outer wall.

Tower Hill is a site of major geological significance, listed by the Geological Society of Australia, Victoria Division as of International Significance (Site PR12), and listed on the Register of the National Estate (Place No. 15250). It is therefore known around the world, and attracts many overseas tourists. It is one of only 42 significant volcanic sites in Victoria, of which only 5 are classified Internationally Significant. Sites in this category are rare in the world and/or, by the nature of their scale and state of preservation or display, are comparable with examples known internationally. Such sites are widely known by the international geological community and could be included on an international register of sites of scientific significance and would rate listing by the Australian Department of Environment and Heritage. It is described by Joyce and King (p. 131 in *Geological Features of the National Estate in Victoria: an Inventory Prepared for the Australian Heritage Commission* 1980) as "One of the most important and spectacular geological features in Victoria". The National Estate Register describes it as "an outstanding teaching and research site".

The view of the southwest slopes of Tower Hill, seen from the Princes Highway, echoes that of early marine observers Baudin and Flinders. Both saw it from the sea, to the southwest, and looking towards the long southwest slope and the low gap that provided them with the unique sight of the central cones. These can now be seen by all from the Princes Highway when travelling from Port Fairy to Warrnambool. This is one of the great views of the Western Plains, comparable with that from Mt Leura, Mt Noorat and Mt Rouse. The presence of even a single building will do irrevocable harm to this vista, and perhaps in turn lead to further applications for building permits. The applicant is asking for permission to build where they may have a splendid view, but to the detriment of every other viewer of this striking landscape.

Tower Hill was recognized as a significant geological feature and designated as a public reserve in 1892. It has a long heritage of conservation activities, being one of the first parts of the Victoria to be declared a National Park. Unfortunately this 1892 designation was not followed by measures to protect the area from overgrazing and weed infestation, which subsequently caused widespread degradation of the landscape. Designation as a State Game Reserve in 1961 led to better protection, but it was not until later in the 1960s that the area was rehabilitated with a pioneering and ambitious program of revegetation using volunteer labour. The work involved planting more than 300,000 trees to a design based on an 1855 painting of the site by Eugene von Guerard. Although the centre part of the maar crater is reserved, the integrity of the overall feature would be damaged by inappropriate development.

The site is of immense importance scientifically. It is one of the one of the largest maars in the world and has an excellent record of eruptive sequences. The numerous nested craters and mounds, as well as the important palynological record indicate that it is one of the recently active volcanoes in Victoria, making it an outstanding teaching and research site and well suited for public access and interpretation (N Rosengren 1994: *Eruption Points of the Newer Volcanics Province of Victoria*, GSA Vic. & National Trust Vic., p 281). Recent palynological research work and dating of Tower Hill was published by John Sherwood of Deakin University Warrnambool, and others, in the *Proceedings of the Royal Society of Victoria* 116 69–76, and this major scientific study now revises the eruption date of Tower Hill to 35,000 years ago, very young for this volcanic area.

Over the last decade, major planning problems have arisen around other maar sites e.g. near the town of Camperdown, in the Shire of Corangamite in Western Victoria. In spite of a long-standing planning overlay, a consultants' report commissioned by the Shire of Corangamite and a recent public planning hearing, the Shire planners continued to come into vigorous conflict with local citizens protesting proposed housing developments, particularly inside the spectacular craters of Lakes Bullenmerri and Gnotuk. One aspect of the arguments against development has been the aesthetic values of the landscape; another has been its scientific heritage significance. It would be a pity if similar ongoing problems arose in the Tower Hill area.

Taking geology to the public

by Noel Schleiger

Convenor Education Subcommittee (GSAV)

With the removal of Geology from the VCE Curriculum in 1995, the Education Subcommittee has had to change its function. Prior to 1995, its main purpose was the setting and marking of the annual examination papers. In recent years, one of the main aims of the Education Subcommittee has been to feed interest in geology across the wider community. Considering modern errors, such education is needed. Over the last decade or so, the Subcommittee has produced *Introducing Victorian Geology* and *Roadside Geology – Melbourne to Ballarat*. The main users of such publications include Field Naturalists Clubs, geology classes of the University of the Third Age as well as certain environmental courses in Technical Education (TAFE) throughout Victoria.

The layman always shows interest in geomorphology and structural geology as these provide the tourist with data to interpret the geological history of the landscape. There is always scope to demonstrate how the basic geology of an area controls the type of vegetation when taken in relation to altitude and climate. Modern concepts such as plate tectonics, extinction events, palaeoclimates and evolution in the history of the earth also impinge on tracing the local geological history.

It is important to have take-away information to disseminate to the public. This is usually done at events such as school careers nights or teachers conferences. The information can be about careers in earth sciences or illustrative material on volcanoes, plate tectonics and palaeontology (e.g. dinosaurs, mammals, megafauna etc). Teachers appreciate detailed handouts on excursions close to their school areas where sites to be visited are safe and clearly significant (e.g. Merri Creek Basalt along the Eastern Freeway, shore platform details along the Mornington Peninsula).

The GSAV is presently working on updating its educational publications. New editions of *Introducing Victorian Geology* and *Roadside Geology* are in the pipeline as well as excursion notes (amongst other things) suitable for secondary school teachers.

If anyone would like to join the Education Subcommittee to help with ideas on how the public can better appreciate the geology of Victoria, please contact me on 9435 8408.

The GSAV is compiling a digital databank of photos that can be used to promote Victorian geology.

We all have at least a few great photos of Victorian geology or of geologists at work in Victoria ... dig yours out now and give them the audience they deserve.

Email **zipped** .jpg files to Leisa Brough: leisa.brough@chisholm.vic.edu.au **OR** mail on CD to Leisa Brough c/- Applied Sciences & Horticulture, Chisholm Institute of TAFE, PO Box 684 Dandenong 3175.

Format: please send .jpg files of at least 800 x 600 pixels in size if possible. Include your name, date taken and subject of each photo, and where appropriate, a brief description.

Geological Society of Australia Annual General Meeting

When: Wednesday 28 September 2005 at 5.00 p.m.
Where: Main Geology Lecture Theatre (Room 211), School of Earth Sciences,
University of Tasmania (Earl Street entrance), Sandy Bay.
Details: Copies of the 2005 agenda and the 2004 minutes and accounts are available
from Sue Fletcher at the GSA on sue@gsa.org.au

MORE DATES FOR YOUR DIARY**Dampier Rock Art**

When: 4–12 October 2005, 9 a.m. – 5 p.m. daily.
Where: St Francis Pastoral Centre, cnr Lonsdale & Elizabeth Sts Melbourne
Details: Free exhibition of photos and art work. See *Geotimes* November 2004 pp10–11.

The Dampier Archipelago in the Pilbara region of north-western Australia features what is regarded as the world's largest concentration of petroglyphs (rock engravings or carvings). It also possesses a major corpus of standing stones, similar to megalithic monuments in Europe, the largest such occurrence in Australia. This outstanding body of Aboriginal rock art is considered to be the greatest non-European cultural heritage property in Australia, and is thus one of the major heritage sites in the world.

Geoscience Australia: Earth Science Week 9–15 October 2005

There will be much activity around the country. If you have an event underway, please advise Jess Tyler, GSA Publicity and Media, so that all our events can be lodged with the national Earth Science Week calendar. Call 0408 298 292 or email publicity@gsa.org.au

To view the Earth Science Week flyer and for more information, go to the Geoscience Australia website: www.ga.gov.au/about/event/index.jsp

What's hot?

When: 25 November 2005
Where: Monash University
Details: Rick.Squire@sci.monash.edu.au

Oral and poster presentations are invited for this LAVA one-day symposium. Email Rick Squire for more information.

continued

Shortcourse in volcanic processes, products, successions & resources: modern and ancient systems

When: 27 November – 3 December 2005
Where: Residential course at Black Dolphin Motel, Merimbula
Details: Contact Ray Cas on 9905 4884 / 9905 4897 or ray.cas@sci.monash.edu.au

This professional shortcourse is presented by Monash University Volcanology Research Group; the Australian Crustal Research Centre; the School of Geosciences at the University of Rome; and the Predictive Mineral Deposits Cooperative Research Centre. Run annually since 1982, this regularly updated course includes three days of lectures (including practical work) and two outstanding field days for geoscientists from industry and government as well as researchers and academics – anyone who needs to understand physical volcanic processes, deposit characteristics, the identification of rock types and their emplacement origins, facies and stratigraphic architecture of volcanic and sub-volcanic successions, rock unit relationships and timing.

Book now: numbers are limited. Contact Professor Ray Cas for brochure and booking form, or email meaghan.mcdougall@sci.monash.edu.au

Joint NZ/Aust hydrology and soil science meeting

When: 27 November - 2 December 2005
Where: Auckland

For information about this meeting, look up the websites of the New Zealand Hydrological Society (www.hydrologynz.org.nz/ak1cir.html), the International Association of Hydrogeologists (Australian Chapter) (www.iah.asn.au) and the New Zealand Soil Science Society (www.hydrologynz.org.nz).

Australian Earth Sciences Convention 2006 – “Resourcing Our Future”

When: 2-6 July 2006
Where: Melbourne Convention and Exhibition Centre
Details: www.earth2006.org.au

Themes include mineral resources, energy resources, environmental and engineering geoscience, geodynamics of the earth's evolution, resourcing geoscience and innovation in geoscience. Also workshops, excursions and a trade exhibition. Something for everyone!

Conference office: The Meeting Planners, 91-97 Islington St Collingwood Vic 3066
Phone: +61 3 9417 0888
Email: earth2006@meetingplanners.com.au

AESC update: Planning is now well-advanced. Please note the following:

The convention begins Sunday 2 July with opening ice breaker at 5 p.m. Registration and exhibition area open from 3 p.m. onwards. The conference concludes 5 p.m. Thursday 6 July with a closing ceremony and drinks.

Each day will begin with a Plenary “Hot Topics” Lecture. The following Plenary speakers have been confirmed:

-
- *Dr Tim Flannery (SA Museum): Environmental Change
 - *Prof Steve Self (Open University): Volcanic eruptions and impact on climate
 - *Dr Nick Sheard (Inco, Platinum Sponsor): The mining industry and the future
 - *Dr Tom Whiting (BHP-Billiton; provisional acceptance): Resources and innovation
 - *Dr Robin Batterham (Chief Technologist, RioTinto): Energy, Uranium and Geosequestration

The remainder of the program will be a very interesting balance of symposia, workshops, fieldtrips and exhibitions on fundamental research, industry-related, environmental and resourcing and innovation-related themes. See the AESC website for a detailed list of themes and symposia titles: <http://www.earth2006.org.au>

The website is now open for submission of abstracts. Deadline for this is 15 December 2005. Registrations may be made via the website from September onwards. Early Bird deadline is 31 March 2006.

The organising committee is delighted with the interest being shown by a range of organisations in sponsorship and exhibition opportunities. See website for details. International explorer and miner Inco has signed on as the Conference Platinum Sponsor, and the Victorian Department for Primary Industry has signed on as a Gold Sponsor.

Go to www.vic.gsa.org.au for up-to-date GSAV news

D E Thomas Medal

The silver Thomas Medal is offered each year for the best geological map produced by a Victorian Honours level student in Victoria. It commemorates the former head of the Victorian Geological Survey, a geologist who was famous for his detailed and precise mapping. Unfortunately this year's candidates did not meet the award criteria, so no medal will be awarded. Consideration is being given to the possibility of updating the award criteria to bring them into line with current practices.

Australia Post "Creatures of the Slime" Stamp Issue

Six stamps illustrating Australian Ediacaran fossils are currently in circulation. The images are based on research within the Monash University School of Geosciences headed by Professor Pat Vickers-Rich. Check out the Australia Post website: <http://www.auspost.com.au/philatelic/stamps/intro.htm> and follow the links to Stamp Shop – Pacific Explorer – Creatures of the Slime.

Newsletter

If you currently receive a paper copy of the newsletter by post and would prefer to receive your *Victorian Geologist* by email, please notify Lindsay Thomas via thomas@unimelb.edu.au. The majority of members already receive their newsletters by email, as it is easier to keep in touch with updates and notices in between newsletter issues. Saves paper as well!

Please send newsletter contributions to Marilyn Moore at me.moore@bigpond.com or mail c/- Geotrack International, 37 Melville Road, West Brunswick, Victoria 3055. Deadline for newsletter contributions is the first Friday of each month.

GSA (VICTORIA DIVISION) 2005 COMMITTEE

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Webmaster:	Jodie Miller	

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THE VICTORIAN GEOLOGIST



October 2005

THE GEOLOGICAL SOCIETY OF AUSTRALIA Victoria Division

Please note: the October General Meeting was held at the University of Melbourne on Thursday 6 October. David Cooke, the 2005 Thayer Lindsley Distinguished Lecturer, presented a well-illustrated overview of the El Teniente porphyry copper-molybdenum deposit in Chile to a most appreciative audience.

The usual "last Thursday of the month" meeting will not take place this month.

From the 2005 Selwyn Symposium

This year's Selwyn Symposium, entitled "Cashing in on the Minerals boom", was held at the University of Melbourne on Thursday 29th of September. Nearly 100 people attended this event to hear talks from industry geologists. The symposium was opened by Stephen Gallagher (Melbourne University) who reviewed the early history of Alfred Selwyn in Victoria. Chris Wilson (Melbourne University) gave an introduction to recent gold prospecting activity in Victoria. The first keynote speaker Clive Willman (DPI) gave a broad overview of the Lachlan fold belt geology and its relationship to gold mineralisation. Neil Phillips (University of Melbourne) followed with his keynote address on the economic aspects of Victorian gold and compared it with Western Australia and the rest of the world. The next five talks focussed on particular prospects and resources by Garry Johansen (Bendigo Mining), Barry Goss (Sedimentary Holdings), Geoff Lowe (Leviathon), Steve Sheldon (Oroyo Mining) and Steve Johnson (Alliance Resources).

After lunch Neil Norris (Perseverance), Ray Hazeldene (AGD), Hugh Rutter (Reedy Lagoon), Brian Cuffley (Alexander Resources) and Steve Olsen (Ballarat Goldfields) described various potential and close-to-production goldfields. The last session focussed on gold mineralisation modelling research by the PMD CRC (Bob Haydon) and government policies facilitating mineral exploration in Victoria (Roger Buckley DPI). Chris Fraser (Minerals Council of Australia) ended the formal presentations with a talk outlining the economic and legislative aspects of mineral exploration in Victoria. A lively discussion followed during a forum session chaired by Chris Wilson and hosted by a panel of the last three speakers.

The symposium was closed and reconvened at the School of Earth Sciences where over 60 people attended the Selwyn Medal presentation by Stephen Gallagher to Professor Tony Crawford (University of Tasmania). The symposium was completed with the annual Selwyn Lecture given by Tom Whiting (BHP Billiton) entitled *Tomorrow's exploration challenges for today's Megaminers*.

From the 19th Victorian Universities Earth & Environmental Sciences Conference

extract from full report to the GSAV Committee by Angela Bush, Convenor VUEESC

The VUEESC is a well-established annual event where postgraduate students present their research to the local science community, thereby gaining experience in communication on a platform which enhances opportunities for future employment and/or future research. The conference connects with, and relies upon ongoing support from, relevant industries and government groups. The GSA provides the means each year to formally publish the conference proceedings. This year's organising committee consisted of volunteers from the postgraduate students of the School of Earth Sciences, University of Melbourne.

Sponsorship allows for free registration of all delegates. The 2005 conference gratefully acknowledges significant support from the Geological Society of Australia (Victoria Division), Monash University Science Faculty, La Trobe University School of Environmental Science, University of Melbourne School of Earth Sciences, Minerals Tertiary Education Council, Predictive Mineral Discovery CRC, Geoscience Victoria (DPI), Newcrest Mining Ltd and Exxon Mobil Australia. Other sponsors included the Bureau of Meteorology, Australian Meteorological and Oceanographic Society, University of Melbourne Earth Science Postgraduate Group, Geological Society of Australia and the University of Melbourne Science Faculty.

Keynote speakers were Professor Jim Bowler (on the role of climate change in the study of Earth Sciences) and Professor Mike Sandiford (on futures in Earth Sciences). Students from five universities gave twenty-two oral presentations and sixteen poster presentations.

Oral Presentation Prizes: Glen Phillips (Best Overall); Belinda Meneghini (Best Climatology); Glen Phillips (Best Tectonics); Jeremy Mitchell (Best Sedimentology & Palaeoecology); Tracey Hassell (MTEC & PMD*^{CRC}); Katarzyna Piper (Best Vertebrate Palaeontology); Meghan Miller (Best Geochemistry & Geodynamics).

Poster Prizes: Neil Chalmers (Best Poster); Daniel McDonald (MTEC & PMD*^{CRC}); Matthias Raiber (Highly Commended Poster); Doris Seegets-Villiers (Highly Commended Poster).

VCAT hearing for Tower Hill crater rim

from Susan White

Convenor: Standing Committee Geological Heritage (GSA Inc)

Convenor: Geological Heritage Subcommittee (Victoria Division)

The GSAV, through the Heritage Subcommittee, has, after a great deal of consideration, appealed against the granting of a permit for a building high on the outside of the crater rim. This internationally significant volcanic feature is of great importance in the geological history of the western volcanic plains. We are greatly concerned that the proposed development is inappropriate and is not consistent with the Shire of Moyne's own planning policies. The VCAT hearing is listed for 21-23 November 2005 in Melbourne.

It is with great care that we take this direction as we have always preferred to work with local landowners for good management of important geological sites. Many such sites are on private land in Victoria and often are well managed by landowners.

In the case of Tower Hill we are working in consultation with the National Trust and local people, and I will be contacting people with regards to this over the next few weeks.

The 2005 Canavan Prize

from Neil Archbold

The Canavan Prize is awarded to the Victorian student, currently enrolled in the third year of a university course, who has achieved the highest first and second year marks in Geology (or its equivalent). The successful Canavan Prize winner for 2005 is Ms Sarah Katherine Hagerty of La Trobe University, who is undertaking a Bachelor of Environmental Science course that includes a substantial Earth Science component (major stream of study). Sarah gained straight As for all her first and second year subjects, fifteen units in all, and in thirteen of these she achieved marks of over 90% - an outstanding performance!

Dates for your diary

Geoscience Australia: Earth Science Week 9–15 October 2005

Earth science week is an international event aimed at helping people to develop an understanding of the importance and impacts of earth science on everyday life, as well as encouraging a sense of responsibility for the use and protection of our natural resources and the environment. This year Earth Science Week will be celebrated from 9-15 October and the theme is "Geoscientists Explore our Earth". It encourages people to learn more about what geoscientists do and how their work contributes to society's wellbeing.

To view the Earth Science Week flyer and for more information, go to the Geoscience Australia website: www.ga.gov.au/about/event/index.jsp

2006 National Science Week Grants Round

The 2006 National Science Week grants round opened on 19 September and will close at 5 p.m. AEST on Friday 28 October 2005. Please see the website <https://sciencegrants.dest.gov.au/NIAS/Pages/Grants.aspx> for information on how to apply.

If you have any questions or would like to discuss your application, please email the Department of Education, Science & Training (Science Awareness Section) on nias@dest.gov.au or phone (02) 6240 5078.

Lava gone cold

Please note that the LAVA "What's Hot?" event planned for 25 November at Monash University has been cancelled.

Shortcourse in volcanic processes, products, successions & resources: modern and ancient systems

When: 27 November – 3 December 2005
Where: Residential course at Black Dolphin Motel, Merimbula
Details: Contact Ray Cas on 9905 4884 / 9905 4897 or ray.cas@sci.monash.edu.au

For up-to-date GSAV news go to www.vic.gsa.org.au
Email newsletter contributions to me.moore@bigpond.com by the first Friday of the month

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November 2005

**THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division**

Next General Meeting: Thursday 24 November

**Noble insights on ore deposits at different crustal levels,
and the potential role for fluid-rock interaction**

Geordie Mark and Mark Kendrick

6.15 p.m. at Monash University
Lecture Theatre E7, Building 72 (Engineering)
Normanby Road, Clayton North

Preceded at 5.30 p.m. by drinks and nibbles in the foyer, \$2/person.

Noble gas isotopic compositions and elemental concentrations vary by orders of magnitude between the three primary geochemical reservoirs of the crust, mantle and hydrosphere. Their low abundance in crustal rocks and inert chemical behaviour mean that input from these distinct reservoirs can be traced, and together with the halogens the data provide unique insights into fluid circulation in the crust and during ore genesis. Recent developments of the analytical protocol, applied to Australian ore deposits, demonstrate that the technique is applicable to Proterozoic samples. Furthermore, the data provide evidence of deep penetration by surface fluids and fluid mixing in the Proterozoic crust.

For up-to-date GSAV news go to www.vic.gsa.org.au

Soils of Victoria: do we have a state emblem?

Just as Victorians have the Helmeted Honeyeater and Leadbeater's Possum as emblems, it has been suggested that we also have an emblematic soil. You are invited to cast your vote.

For information about the contenders, visit:

http://www.dpi.vic.gov.au/dpi/vro/vrosite.nsf/pages/soil_vic

To cast your vote, visit:

http://amorphous.agfor.unimelb.edu.au/state_soils/

Editor's note: As there are no general meetings of the GSA (Vic Division) in December or January, the next issue of *The Victorian Geologist* will come out in February 2006. Please email contributions to me.moore@bigpond.com by the first Friday of the month, 3 February 2006.

Dates for your diary

World's biggest water filter: our soil

The Australian Society of Soil Science Inc. (Victorian Branch) and the Institute of Land and Food Resources cordially invite you to the 14th Professor GW Leeper Memorial Lecture, to be given by Professor Brent Clothier of HortResearch NZ.

When: Friday 25 November 2005 at 5 p.m.
Where: Turner Theatre, Botany Building, University of Melbourne
Details: Contact Gary Clark on 9479 5673 or gjclark@students.latrobe.edu.au

The Leeper Lecture will be followed by dinner at Il Vicolo. An excursion based on Professor Clothier's theme will be held the following day at Eynesbury Station on the Werribee River. Please RSVP as soon as possible if you are interested in either of these add-ons, as registration is required.

NewGenGold 2005

When: 28–29 November 2005
Where: Burswood Convention Centre, Perth, WA.
Details: www.newgengold.com or contact:
Juliet Kirk, NewGenGold, PO Box 1589, West Perth WA 6872
Phone: 08 9321 0355 Fax: 08 9321 0426 Email: newgengold@louthean.com.au

Billed as the world's pre-eminent gold exploration event, NewGenGold 2005 continues the popular series of biennial *New Generation Gold Mines - Case Histories of Discovery* conferences. Case histories of discovery are very motivational for gold explorers at all levels. As with previous conferences, an exciting program of fifteen papers will be presented over two days, each addressing the where, why and how of the processes leading up to important discoveries from the Americas, Australia, Asia and Africa.

December starts with two events in Adelaide

The GSA (SA Div) is holding two days of conferences on 1-2 December 2005. Both events will be held at the AMF Centre, Conyngham Street, Glenside SA, and registration forms can be obtained from the website www.sa.gsa.org.au

Thursday 1 December 2005: 8.30 a.m. – 5.00 p.m.

4th Sprigg Symposium: Uranium exploration, deposits, mines and mine waste disposal

The program includes speakers from PIRSA, Pepinnini, Curnamona, Southern Cross, Petrathern, P-A Wulser, BHP Billiton, Heathgate, Rio Tinto, UNE and EWL Sciences. The Keynote Speaker will be RK Johns: "Uranium in South Australia: politics and reality".

Friday 2 December 2005: 8.30 a.m. – 5.00 p.m.

2nd Annual SA Explorers Conference (St Barbara's Day)

Organised in conjunction with AusIMM, AIG and SACOME, this conference will feature twenty presentations on new companies, exploration projects, feasibility studies and near-mine exploration in SA.

Further details from Kevin Wills (08) 8362 5900 or kwills@flindersdiamonds.com

Australian Earth Sciences Convention 2006 – "Resourcing Our Future"

When: 2-6 July 2006

Where: Melbourne Convention and Exhibition Centre

Details: www.earth2006.org.au

Themes include mineral resources, energy resources, environmental and engineering geoscience, geodynamics of the earth's evolution, resourcing geoscience and innovation in geoscience. Also workshops, excursions and a trade exhibition. Something for everyone! **Submission deadline Thursday 15 December 2005.** Early bird registration closes 28 February 2006.

Conf. office: The Meeting Planners, 91-97 Islington St Collingwood Vic 3066

Phone: +61 3 9417 0888

Email: earth2006@meetingplanners.com.au

Have you seen the GSA's new website yet? Check out www.gsa.org.au

The site, which went live on 17 October 2005 as a highlight of Earth Science Week, represents the latest of the Society's efforts to boost membership and service delivery to members. From the GSA press release:

'... According to GSA President Tony Crawford, the new website highlights the important place of scientific associations in Australia's science landscape. In the current atmosphere of flagging support for earth sciences in schools and universities, the GSA has an important role in creating the necessary connections within the scientific community.

"In reconfiguring how we present information about our activities, it is manifestly clear that the Geological Society of Australia is providing an important role in scientific discussion and in creating the important sense of community," he says. "Our Divisions and Specialist Groups regularly convene sessions on climate change, geosequestration, the latest thinking on future energy directions, mineralisation and exploration, as well as the full range of topics that the Earth sciences cover. Each and every month across the country, the GSA is holding an event, seminar or activity that addresses issues important to the geoscientific community, whether it be hosting an international expert or hearing about new research developments. We also support major submissions to Government and join with a collective of like-minded organisations to keep Earth sciences on the agenda." ...'

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