

THE VICTORIAN GEOLOGIST



May 2010

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting for 2010

Thursday 27th May at 6:15 p.m.

Serpentinites, Mantle Convection and Gold Mineralisation

Dr Mark Kendrick

School of Earth Sciences, The University of Melbourne

Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne

Preceded at 5.30pm by drinks and nibbles in the tea-room, 4th floor. Cost \$2

Serpentinites form when mantle rocks are hydrated on the seafloor. Subduction of these rocks then provides a critical link between volatiles (H₂O, Cl) in the Earth's surface hydrosphere and atmosphere, and primordial or recycled volatiles in the Earth's mantle. Serpentinites are of additional interest because together with altered-oceanic basalts they are a possible source of gold-related mineralising fluids in orogenic belts. The noble gas and halogen composition of serpentinites provides valuable insights that help resolve controversies concerning the nature of mantle convection and the origin of gold mineralisation.

FORTHCOMING EVENTS

2010 AW Howitt Lecture

Presented jointly by the Geological Society of Australia (Victoria Division) and the Royal Society of Victoria



Thursday 17th June

RICK SQUIRE

Supermountains Superlife: clues from Victoria's geology on the rise of animals, humans and human civilisation



The Royal Society of Victoria
PROMOTING SCIENCE SINCE 1854

Abstract:

Victoria's geology has influenced our lives in more ways than we realise. When our state was only a few months old, the discovery of huge and abundant gold nuggets lying in river beds like potatoes in a field triggered one of the greatest gold rushes in history. The Victorian Gold Rush not only drove an explosive rise in the states population, attracting hordes of young enthusiastic and hard-working people from around the world, but it also generated immense wealth and prosperity. And it was on the back of that prosperity that The Royal Society of Victoria was founded in 1854.

But what is less known about our state's geology, is how the same rocks that played a crucial role in the Victorian Gold Rush played an even more important role in three of the most-remarkable events in Earth's history: the rise of animals between 575 and 520 million years ago; the rise of humans some 6 to 8 million years ago and the rise of human civilisation in the last 14.5 thousand years. In my talk I will show how the ancient sedimentary rocks that contain the unusually large gold deposits of the Bendigo-Ballarat-Stawell region played a key role in generating the conditions necessary for the rise of animals and humans, as well as influencing several of the key technological and cultural innovations associated with the rise of human civilisation. Come along and find out how.

Lecture to be held at the Royal Society of Victoria, 8 La Trobe Street Melbourne, 7:30pm



Two Geologists are walking across a granite outcrop one day. The first says to the second "Hey, this terrain is unmetamorphosed". Replies the second one, "No Schist".

**Earth Systems:**

change
sustainability
vulnerability

4-8 July 2010

**National Convention Centre
Canberra**



Committee Reports from the 2010 Annual General Meeting of the Victoria Division of the Geological Society of Australia

Chairman's Report

David Cantrill

GEOLOGICAL SOCIETY OF AUSTRALIA
VICTORIA DIVISION
2009-10 Annual Report

Report from the Chair

I would firstly like to thank the members of the committee for all the work through the year. In particular Alison Fairmaid who has taken up the role of putting together the newsletter often at very short notice and very ably assisted by Peter Hoiles. You will have noticed that the newsletter has more content and several new sections of interest. As our main means of communication this is welcome and I would invite members to contribute content, indeed the editorial group is keen to get as many submissions as possible. This has seen a good set of monthly talks and many have been well attended however, like most small societies it is difficult to get good attendance consistently. Perhaps this reflects the talk selection by the committee and we would welcome feedback on whether the talks fulfil the needs of the members.

This years Selwyn Symposium on "Origin of the Australian Highlands" provided a series of entertaining and enlightening talks highlighted the long-running debate about the origin of the highlands along the eastern seaboard of Australia. There was much discussion and the symposium was sold out. We are also thankful for the support from GSA Head Office in providing the services of Patrick Daly to publicise the event. Several media outlets picked up stories related to the symposium and the also for the Selwyn Medallist Bernie Joyce. The treasurer Stephen Gallagher should also be thanked, not only for his organization of the Selwyn Symposium but also for getting the accounts finalised and audited by March. The investment group of David Moore and Lindsay Thomas also should be thanked for an excellent job of managing the share portfolio. As mooted at the last meeting GSAV have decided to move to a new investment house to ensure better independent advice. This process has taken some time to complete but the final monies should be moved across in the next few days. All of this endeavour has been ably supported by the secretary Adele Seymon whose email reminders have kept me on my toes. There are several other people involved behind the scenes and my thanks goes to all of them for the work on the committee over the past year.

David Cantrill
29th April 2010

Treasurer's Report

Stephen Gallagher

Trading summary through 2009

Cash at Bank, 01/01/10	\$22,052.30
Income to date	\$-
Expenditure to date	\$1,067.50
Cash at bank	\$20,984.80 (end march)

Overview of total capital position

Assets as at 01/01/10	\$269,165.46
Bookstocks as at 01/01/10	\$47,632.88
Estimated total assets as at 01/01/10	\$316,798.34
Assets as at latest statement	\$296,538.69 (end April 2010)
Estimated current bookstock	\$47,382.88 (end April 2010)
Approximate current assets	\$343,921.57

		stocks @ end December 2009		
		Value	Stock	Total
SP23	Geology of Victoria 3	\$125.00	355	\$44,375.00
VIC5	Roadside Geology	\$9.47	4	\$37.88
AB79	Selwyn Symposium 2007 (w/colour plates & figures)	\$17.00	94	\$1,598.00
AB91	Extended abstracts: Selwyn Symposium 2008	\$16.00	27	\$432.00
AB57	Selwyn Symposium 1999	\$10	5	\$50.00
AB94	Selwyn Symposium 2009 (w/colour plates & figures)	\$30	38	\$1,140.00
	Total SAV			\$47,632.88

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GSAV BALANCE SHEET 2009 24/03/10 6:16 PM

GSAV BALANCE SHEET 2009 24/03/10 6:16 PM

Balance Sheet
As at 31 December 2009

	2009	2008
CURRENT ASSETS		
Cash at Bank NAB	\$ 22,052.30	\$ 17,982.49
Cash at Bank JB Were 440966	23,033.93	44,996.81
Trade Debtors		
Other Debtors - Franking Credits Receivable	3,993.90	4,464.93
Interest Receivables		
Goldman Sachs JB Weir Deposits		
Trust Distribution Receivable		
CFS Commonwealth Property Office Trust		1,150.00
Goodman Group		1,132.88
Australian Infrastructure Fund		380.88
Macquarie Communications Infr Group	867.44	337.26
Stock on Hand		
2009 figures readjusted after stock take		
Extended abstracts: Selwyn Symposium 2008	432.00	608.00
Selwyn Symposium 2007 (w/colour plates & figures)	1,598.00	1,530.00
Extended abstracts: Selwyn Symposium 2009	1,140.00	
Selwyn Symposium 1999	50.00	
Roadside Geology Melb-Ballarat	37.88	66.29
Geology of Victoria	\$ 44,375.00	48,375.00
	97,580.45	121,024.54
Investments (At Cost)		
NAB National Income Securities	16,443.00	15,355.41
Commonwealth Property Office Fund		
Goodman Sach St Sec		19,266.00
St George Unsecured		22,454.83
Australian Infrastructure Fund Stapled Securities	31,554.06	
Macquarie Communications Infr Group Stapled Securities		
MQG Convertible PS	5,375.00	
Westpac SPS II	20,494.50	
Shares in listed Companies		
CSL Ltd Ord Ip	5,198.40	
Bendigo Bank Limited	20,545.92	22,968.00
Telstra Limited	30,437.82	27,993.47
BHP Billiton Ltd	49,501.76	34,945.12
AFIC Ltd	43,290.00	23,008.75
Westpac	27,830.00	18,667.00
Fosters Limited		
National Australia Bank Ltd	18,495.00	12,688.09
	269,165.46	197,346.67
TOTAL ASSETS - NET ASSETS	366,745.91	318,371.21
Loss in value of investments/assets 2008		(39,548.79)
MEMBERS FUND		
Member's fund	366,745.91	318,371.21

Trading Statement for the Year ended 31 December 2009

	2009	2008
	\$	\$
SALES		
Sales and Publications	9,370.93	6386.9
	9,370.93	6386.9
Less Cost of Sales		
Opening Stock	\$ 50,579.29	54,794.00
Adjustment to end 2008 stock after stock take	\$ 3,645.00	
Opening Stock	\$ 54,224.29	54,794.00
Closing Stock	47,632.88	50,579.29
	6,591.41	4,214.71
	2,779.52	2,172.19
Gross (Loss)/Profit	2,779.52	2,172.19

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Statement of Appropriations
For the Year Ended 31 December 2009

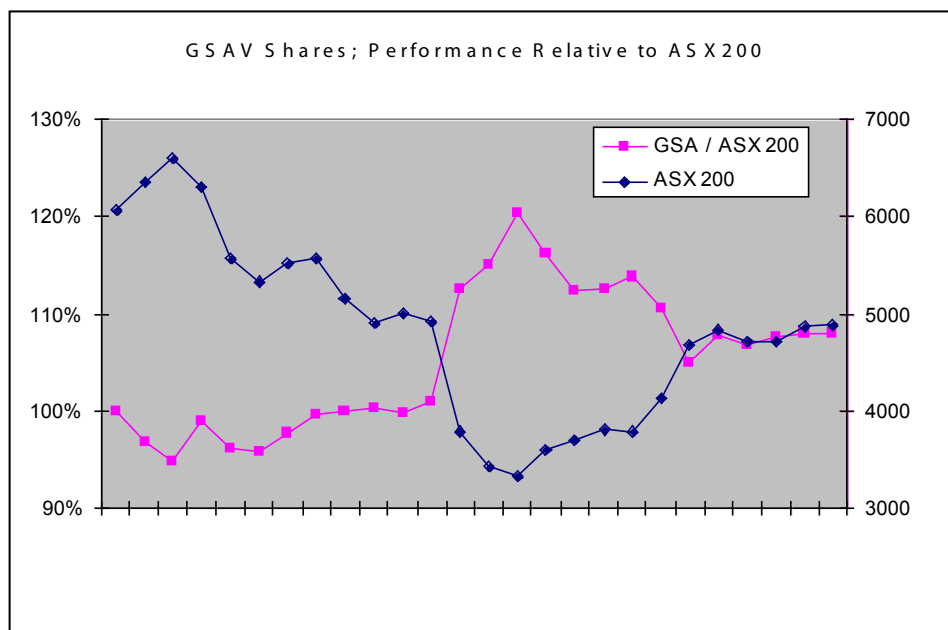
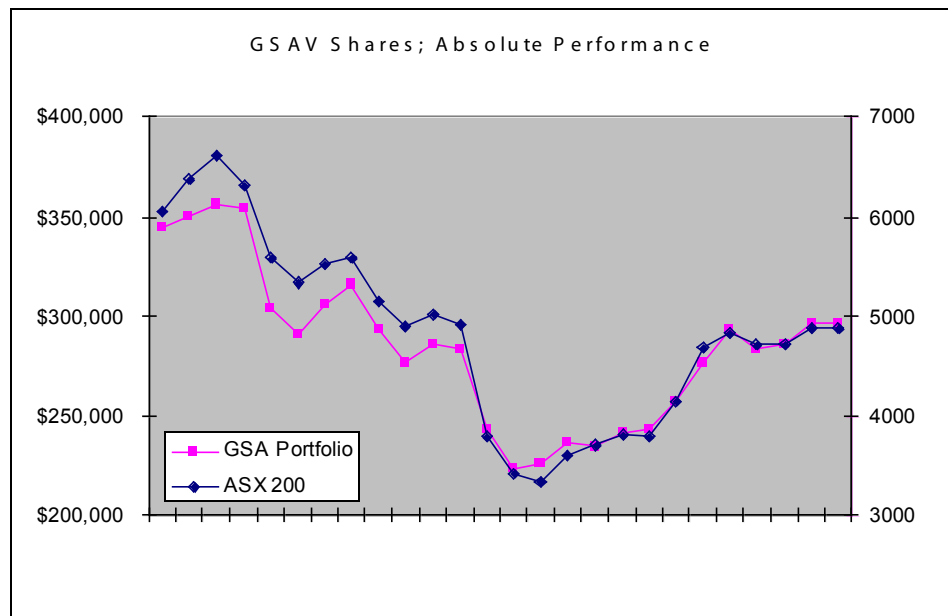
	2009	2008
	\$	\$
Member's funds - Beginning of Year	326,715.72	357,920.68
Loss in value of Investments/assets 2008		(39,548.79)
Profit before income tax	11,209.59	8,343.83
Income tax expense	-	-
Profit after income tax	11,209.59	8,343.83
Member's Fund at 31 December 2009	337,925.31	326,715.72

Investment Portfolio Report

David Moore

GSAV Share summary

Cash	\$27k
'Fixed' interest	\$42k
Shares	\$227k
BHP	\$47k
Banks (BEN, NAB, WBC)	\$69k
Others (AFI, AIX, CSL, TLS)	\$111k
TOTAL	\$297k



Awards Committee Report

Ingrid Campbell

GSA VICTORIA DIVISION AWARDS COMMITTEE 2009 ANNUAL REPORT

I wish to thank the members of the Awards Committee for their continued support during the year. The following awards were given:

The 2009 Selwyn Medal was awarded to Associate Professor E.B. (Bernie) Joyce of University of Melbourne in recognition of his significant contributions to the understanding of the geology of Victoria, in particular his outstanding contribution to the understanding of Tertiary volcanism and volcanic and highlands landforms of Victoria. His professional career teaching geology and geomorphology in conjunction with his long-standing interdisciplinary involvement in areas such as the History of Earth Sciences, Heritage Geology, Regolith, Geomatics and Archaeology have had far-reaching impact and helped in our understanding of all aspects of the Earth Sciences in this State and beyond. This has significantly contributed to a new understanding, appreciation and interpretation of recent and ancient landforms and the geology in Victoria.

The 2009 Canavan Prize was awarded to Helen Dulfer (University of Melbourne) who achieved the highest marks for second year in 2008. This prize is given to the best second year student in an Earth Science related course in Victoria.

The D. E. Thomas Medal was awarded to David A Douth (Monash University) for his honours thesis entitled: “Stratigraphic and structural controls on Archaean andesite gold deposits in the Argo-Lut region at St. Ives Western Australia”. The committee agreed that this project is a well integrated work that co-ordinates mapping, borehole and field geology data and conforms to the guidelines for the Thomas Medal.

Ingrid Campbell
Chair, Awards Committee

Heritage Committee Report

Susan White

HERITAGE SUBCOMMITTEE GSA (Vic) REPORT 2009 -2010

The Geological Heritage subcommittee continues to work towards better understanding of geological heritage in the state. The past year has seen a continuation of the work we have been doing for some years. This includes maintenance of the data base of sites and addition of new sites. Some new sites were added this year from previously published geological significance site reports and some recent consultancy reports.

The committee has continual input to the Bacchus Marsh Council Trench management

committee and has given advice to consultants and people wishing to object to particular development projects. This last has been some quarrying, a development at Port Campbell and some windfarm developments. We are always very careful regarding objections as the GSA is not opposed to development per se. However some advice on the significance of particular sites is useful.

The committee was involved with organising the GeoHeritage sessions of the International Geomorphology Congress held in Melbourne in July 2009. Several papers were given and a Western district and an urban sites excursion was organised by committee members, especially Bernie Joyce, Mel Mitchell, Neville Rosengren and Roger Pierson.

Dr Susan White

Convenor: Standing Committee Geological Heritage (GSA Inc)

Convenor: Geological Heritage Subcommittee (Victoria Division)

Geological Society of Australia Inc

Ph/fax +61 3 93284154

Bicentennial Gold 88 Endowment Report

Gerhard Krummei

BICENTENNIAL GOLD 88 ENDOWMENT Report for the Year 2009

The years 2009 and 2010 are significant milestones in the life of this Endowment. The former year marks the 20th anniversary of the establishment of the Endowment, while the latter represents the 20th year of award distribution. Considering projections for the duration of the currently re-emerging mining boom, it is most likely that this Endowment will maintain its relevance well into the future.

Guided by the Endowment's mission to provide funds for the advancement of education and research in Earth Sciences for the benefit of economic geology in Australia, grants have been awarded to assist geoscience students with costs of study and research in topics of economic geology, environmental geology, mineral economics and mineral law, teaching, technical visits and travel to present at conferences.

To-date, some \$188,000 have been distributed to a total of 84 recipients throughout Australia comprising geoscience-focused tertiary institutions and individuals within them

There was a significant increase in the number of applications for support in 2010, many of which were last-minute submissions. These were assessed in the final quarter of 2009, with recommendations submitted to the Director and Trustees by year end for approval. The sum of \$10,000 was again made available for distribution for the year 2010.

The successful recipients for 2010 projects were:

- *The University of Melbourne*
To assist with a research group with costs of palynology studies relating to the

hydrocarbon prospective Early Cretaceous strata of the Gippsland Basin.

- *The University of Melbourne*
Partial assistance with costs to present a course on the Geology of Gold.
- *James Cook University*
Support for an honours graduate to present a technical paper at the AESC Conference, Canberra, July 2010.

The contribution of Prof. David Gray and Ms. Ingrid Campbell GSA (Vic Div), long term members of this Working Group, to the assessment process is gratefully acknowledged.

Ms Xan Weber of the AusIMM is thanked for her efficient secretarial support. The ongoing commitment of The Director and Trustees to this Endowment is also appreciated.

GERHARD K. KRUMMEI
Chairman – Working Group
BG88 Endowment

26.02.2010

FORTHCOMING EVENTS

Monash University upcoming seminars

Fri 11th June 2011, 12 noon, S10, Building 25, Clayton Campus:

Dr. Margarete Jadamec (Postdoctoral Research Fellow, Monash University) will be presenting a seminar on *“Reconciling Surface Plate Motions with Rapid Three-dimensional Mantle Flow”*.

Fri 16th July 2011, 12 noon, S10, Building 25, Clayton Campus:

Dr Hamish Campbell (Senior Scientist, Institute of Geological and Nuclear Sciences, New Zealand) will be presenting a seminar on *“The sinking of Zealandia: a significant geological constraint on the antiquity and origin of the native terrestrial biota of New Zealand?”*

Abstract: Landis et al. (2008, Geological Magazine 145: 173-197) drew attention to the possibility that the New Zealand region of Zealandia may have been totally submerged 23 million years ago. This geological suggestion has proved somewhat contentious, especially within the biological world. For various reasons, this idea is not easily tested but molecular biological research does seem to support it. The overwhelming DNA evidence from modern studies of diverse New Zealand native terrestrial biota indicates an Australian origin, not a Gondwanan origin. This talk will explain the geological basis for daring suggest possible total submergence of Zealandia, and will also attempt to address some of the biological concerns such a suggestion raises.

For more information please contact **Simon Jowitt**.

Email: simon.jowitt@monash.edu

Office: +61 3 9905 1119



**You know you are a Geochronologist when:
you get lots of dates!**

FORTHCOMING SEMINARS AND EVENTS

to be presented at
GSA (Victoria Division) meetings

Note: unless otherwise indicated, all 2010 talks will be held in the
Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne.

THIS IS NOT A MISPRINT!

May 27 **Dr. Mark Kendrick**, Serpentinites, mantle convection and gold mineralisation

June 17 Royal Society of Victoria and the Geological Society of Australia (Victoria
Division) present:

The **ANNUAL AW HOWITT LECTURE**

Rick Squire, Supermountains Superlife: clues from Victoria's geology on the
rise of animals, humans and human civilisation

Please note this is NOT the last Thursday of the month

July 29 TBA

Something interesting to share? Want to see your name in print?

Don't be bashful, contribute to the GSA(V) monthly newsletter!

If there are any events, happenings, news, or views that would be of interest to the membership,
please send your details and information to Alison Fairmaid (a.fairmaid2@pgrad.unimelb.edu.au)

We'd be glad to hear from you

Visit the GSAV on www.vic.gsa.org.au or the GSA on www.gsa.org.au

• Renewing your GSA membership is easy - it can now be done online. •

CONSIDER CONTRIBUTING TO TAG!

It is member contributions which make
TAG a member magazine—please keep
the contributions coming and assist with
informing all of the membership (not just your
Division) about your activities.

Please send your news to: tag@gsa.org.au



GSA (VICTORIA DIVISION) COMMITTEE

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Lindsay Thomas 0427 354 828
Susan White 9328 4154
Lucy Ross 0431 094 188
Gemma Prata 0422 866 208

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Newsletter deadline

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