

AUSTRALIAN SOCIETY OF



EXPLORATION GEOPHYSICISTS

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INTRODUCTION

The Sydney Conference has been the most talked about event recently, the arrangements of which are now going well. The local branches have been active and it is good to see future meetings advertised well in advance. Kevin Wake-Dyster has yet again been elected to the ACT Committee as Branch Secretary and has given the branch many good years of service. South Australia are busy organising a workshop. Whatever has happened to the wine offer this year?

Mick Micenko of Hadson Petroleum has been appointed the new ASEG Business Manager. Greg Street now replaces Eve Howell on the Research Foundation Committee.

The membership database has been a controversial topic lately. It is at present not for sale and the names and addresses of members are not available for publication. However, arrangements can be made for advertising or sponsorship in Preview. The Federal Executive meet again on July 4 and this will be an item on their agenda. Should there be any changes members will be informed.

*Regards
The Editor*

simon

NEW NAME FOR SEISMIC GROUP

Horizon Exploration Limited, the international seismic contractor and a member of the Simon Group, has been renamed Simon-Horizon Limited. The change of name, which took effect as of 1 January 1990, reflects the positive links between Horizon's worldwide operations and other group companies.

Most of Horizon's overseas operations and joint ventures will also be using the Simon-Horizon name and all now trade under the common umbrella of Simon Geophysical Services. In the USA, Geo-Search Corporation of Midland and Dallas, Texas which has been a Simon company since 1985, have merged with the Horizon subsidiary HEX Inc of Houston, Texas. The merged company, called Simon-Horizon Inc, provides an integrated US based seismic acquisition and processing company with access to the additional resources of both Simon-Horizon Ltd and the Simon Group.

Employing some 7,500 people and with sales of about \$1,000 million, the Simon Group supplies specialised equipment, process engineering and technical services to industries and utilities throughout the world.

simon-horizon

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The University of Queensland

LECTURER IN EXPLORATION GEOPHYSICS (5 Year, fixed term)

Department of Geology and Mineralogy

Applicants should be applied geophysicists with a strong geological background, preferably with some industrial experience, and evidence of postgraduate capacity from an MSc or PhD in, or allied to, geophysics. Experience in electrical and/or potential field techniques would be advantageous, as well as exposure to the seismic methods.

The Department offers a four year course leading to the degree of Bachelor of Applied Science (Geophysics) and a Master of Applied Science (Petroleum Geology and Geophysics). The successful applicant will assist in the development of these courses and will normally assist with other subjects. Liaison with industry will be encouraged, specially where student research and project work can be supported.

Excellent opportunities exist for most kinds of geophysical research. The Department operates first-order Seismological Stations at Charters Towers 1464 km north of Brisbane and at Mt Nebo on the outskirts of Brisbane. These, with data exchange, also offer topics for research.

Salary: \$32,197 - \$41,841 per annum.

Ref No: 64889

Note: Although the formal closing date has expired, applications in immediate response to this issue of PREVIEW will be considered. Direct enquiries to Dr Steve Hearn (07) 377 2375 or fax: (07) 870 4993.

Please forward an original plus seven copies of application and resume to:

The Director
Personnel Services
The University of Queensland
St Lucia 4067 QLD
Australia

ASEG BRANCH NEWS

A.C.T.

The AGM of the ACT Branch of ASEG was held on 2 May 1990, a bit later than usual. However the meeting was extremely well attended, although nominating and electing a new Executive required some degree of lobbying and persuasion by the outgoing President, Peter Napier.

The new venue proved to be excellent with the modern surroundings, and those fortunate to obtain a booking for the dinner were rewarded with a superb meal at reasonable cost.

The next Executive for 1990/91 consists of the following members:

President:	David Johnson	BMR, NRIC
Vice-President:	Richard Almond	CSIRONET
Past-President:	Peter Napier	BMR
Treasurer:	Mike Sexton	BMR
Secretary:	Kevin Wake-Dyster	BMR
Asst Secretary:	Tim Barton	BMR
Committee:	Alan Hogan	CRAE
	Bruce Wyatt	Wyatt Assoc
	Ian Hone	BMR
	Graham Heinson	RSES

The ACT Branch of the ASEG will be holding the July meeting on Wednesday 4 July at the Polish Ex-Servicemen's Association Club, Tobruk House, Moore St, Civil. Drinks will be available from the bar at the club from 5.00 pm with the meeting and seminar commencing at 6.00 pm.

The guest speaker for the meeting will be Dr Catherine Constable (Scripps Institution of Oceanography, California, USA). The title of the seminar talk will be "Deconvolution as an Inverse Problem in Geophysics", with application to Palaeomagnetic Data.

Following the meeting Catherine will be the guest of the branch for dinner at the Lantern Restaurant in the RSL Club, next door to the Polish Club. Please contact me if you wish to attend (062 49 9401).

Tentative bookings have been made with the School of Tourism and Hospitality to use their boardroom and catering facilities for two ASEG meetings during the later half of 1990. A normal monthly meeting will be held on Wednesday, 12 September with a booking for dinner made for 25 people in the School's La Cafe, with a three course buffet style meal, cost \$12/person (wine extra).

The second booking has been made for dinner using the Restaurant for Tuesday 20 November. Cost \$20

per head (including wine, with subsidisation by the ASEG). The late November meeting will be treated as a Christmas function with bookings available for a maximum of 45 people. Speakers for both meetings are yet to be finalised. To ensure the above meetings are a success, please make a note of the dates in your diaries.

Kevin Wake-Dyster
Hon. Secretary

N.S.W.

At the May meeting of the NSW Branch, Karen Christopherson of Chinook Geoconsulting Inc. gave an excellent, very well presented on Magnetotelluric Surveying in Papua New Guinea. Karen described a number of interesting anecdotes and displayed some very beautiful slides.

At the June meeting, Gary Gassaway of Terra Linda Group presented a talk on "Omniphone: An Update - performance and results so far."

Preparations are currently underway for the Annual Student Night which will be held on the evening of 26 September.

Scott Gagen
Secretary

S.A.

No doubt everyone is wondering what has happened to the South Australian branch of the ASEG.

Well, we are still functioning and our President has been busy organising a workshop for members to attend. Enrolments must be quick as there is a limit of twenty people.

The ASEG/PESA Sequence Stratigraphy Interpretation School Workshop will be held on 4-5 July.

The second day of the workshop will finish with a poster session on the ground floor of 101 Grenfell Street and will continue into an ASEG evening meeting, where Rob Kirk will give a talk to all interested persons on the subject of sequence stratigraphy. Entry to this will be the usual \$5 and refreshments will be available.

The committee has also lined up a few other talks and activities for later this year and these include:

August:

Talk by Nick Sheard on an as yet unspecified topic.

September:

SADME S.A. Exploration Leases - an update

October:

John Saunders to present results of NCPGG experimental work.

November:

Melbourne Cup Lunch - Talk by Prof. Davies (Adelaide University)

December:

Xmas BBQ, Students Night

*Nick Fitzgerald
Secretary*

QLD

At the June branch meeting members were entertained and enlightened by Gary Gassaway from the Terra Linda Group who gave a talk on Omniphones. The Omniphone is a 3-component stand-alone geophone with signal processing capability to remove surface noise, especially ground roll.

Gary's presentation included a review of Omniphone hardware and software, how data is processed and why results are superior to conventional 3-component geophones and geophone arrays via examples from North America and the Perth and Cooper Basins.

Coming events for the Queensland Branch are:

7 August 1990:

Barry Long of Velseis Pty Ltd will hopefully be presenting a video about heliportable high resolution seismic acquisition near Woolongong. If this film is unavailable, Barry has promised to show some of his favourite home videos!

September:

Presentation by Colin Barnett of Newmont Exploration, USA, on Gold Mining and Geophysics.

*Brenton Oke
Secretary*

W.A.

Greg Hall's presentation on Granny Smith which was postponed is now rescheduled for July 4. This will be combined with a talk by Steve Benson on Computer Simulation of Geological Structures. Both talks promise to be informative.

A beer tasting night is planned for July 18 at the Aerodata Bar. Keen palates will be required to pick the best ales and lagers from the assembled alternatives.

*Kim Frankcombe
Secretary*



IN MEMORIAM

**Colleagues who have not renewed
their membership by 30 June 1990
will be terminated.**

**Their names will disappear from the
ASEG database.**

**For these colleagues, this is the last
issue of PREVIEW, the end of
contacts with other geophysicists**

There is a way out:

**Reapply for membership and
reinstate yourself.**

or

R.I.P.

THE DAY THE EARTH SHOOK - PART 2

Brian Gaull
Mundaring Geophysical Observatory

The question is why did we see such a difference in damage and effects at Newcastle in December 1989 and at Meckering in January 1990 when the magnitude of both earthquakes were virtually the same and the distance from the respective centres to these towns were also similar?

In general terms, the extent of structural damage during earthquakes is firstly dependent on the number, type and strength of the structures involved and secondly on the nature of the strong ground motion registered at these structures. For example, in Newcastle the structures were often old and were not built to withstand the lateral stresses that were manifest within them.

This apparently was due to:

- the design of the buildings, eg: unreinforced masonry
- weak mortar
- erosion of mortar rendering it even weaker.

On the other hand, at Meckering there were fewer structures involved in the first instance and because of the lesson learnt from the major earthquake in 1968, the buildings are generally newer and are especially constructed to withstand the shearing forces unleashed by such events as January 17, 1990.

The second factor contributing to damage, as mentioned above, is the nature of the strong ground motion experienced by these structures. At Newcastle, McCue et al (1990) suggested that the earthquake's focal mechanism radiated a large proportion of shear waves in the direction of the town and that considerable amplification of them due to the site effects probably occurred.

The major damage at Newcastle was in a part of the town built on a former course of the Hunter River and consequently is made up of several metres of estuarine alluvial silt and sand. Of course such amplification was not possible at Meckering which sits upon a thin veneer of soil and this in turn on the Yilgarn Block.

Ref: McCue, K. Wesson, V. & Gibson, G., 1990.
The Newcastle NSW Earthquake of 28/12/1989.
(BMR Journal of Geology & Geophysics: in press.)

Elizabeth and Frederick White

C O N F E R E N C E S

With the generous support of Lady Elizabeth White BM, BS, and Sir Frederick White FAA, FRS, the Academy conducts a series of research conferences in the physical and mathematical sciences related to the solid earth, the terrestrial oceans, the earth's atmosphere, solar terrestrial science, space sciences and astronomy.

The purpose of the conferences is

- to advance at the most fundamental level the understanding of the subject
- to endeavour to introduce to Australian research new aspects or directions, and
- to encourage participation of overseas scientists.

Up to two conferences of about two days duration are organised each year with a membership of 20-30. A sum of up to \$5 000 is allocated for each conference and the supplementation of this sum is encouraged. The conferences are held in the Academy's Ellerton Becker Building in Canberra on a date agreed upon by the conference organisers and the Academy.

The initiative, financial responsibility and detailed arrangements for the conference are the responsibility of the organisers and scientific society/organisation which acts as a joint sponsor with the Academy.

Societies and organisations are invited to prepare proposals for meetings in 1991. Proposals should be submitted on application forms available from the Academy secretariat and should be addressed to:

The Executive Secretary
Academy of Science
GPO Box 783
Canberra ACT 2601
Telephone enquiries: Faye Nicholas
(062) 47 5777

Closing date for applications is 31 July 1990

Australian Academy of Science



ASEG RESEARCH FOUNDATION

Joe Cucuzza
Secretary

The ASEG Research Foundation formally commenced its function on 25 September 1989 when a meeting of the Research Foundation Committee was convened during the Melbourne ASEG Conference.

The aim of the ASEG Research Foundation is to support research into **exploration geophysics**, via approved research projects at B.Sc. Hons. and M.Sc. level in Australian tertiary institutions. In order to do so, we invite financial contributions from members, companies and other professional societies. The ASEG Research Foundation is an Approved Research Institute, consequently *all contributions are tax deductible*. In addition, of course, all contributions will be acknowledge in "Preview".

With your support, we will raise sufficient funds to support some research projects in 1990, our first full year of operation. Naturally we hope for major contributions from companies and professional societies, however, individual contributions from members are invited as a tangible way of showing your support for this initiative. Simply fill in the attached slip, enclose your cheque and return to the address marked.

Further to those names published in the May issue of Preview, the following people/organisations have contributed to the ASEG Research Foundation:

- W L Anfiloff
- C E Barton
- P B Edwards
- D M Finlayson
- S H Hall
- E A Howell
- H N F Hungerford
- J A Major
- B E Milton
- W S Peters
- D Powell
- M J Sexton
- M J Shallay
- S N Sheard
- R J Smith
- N Stalz
- J M Stanley
- Western Atlas

Thank you very much to all the above.



DONATION TO ASEG RESEARCH FOUNDATION

Post to: Treasurer, ASEG Research Foundation, c/- N
Hungerford, Billiton Australia, PO Box 872K, Melbourne Vic
3001

NAME:

ADDRESS: (for receipt purposes)

AMOUNT OF DONATION: \$

SIGNATURE:

Do Not Detach - To be completed by ASEG Research Foundation



ASEG RESEARCH FOUNDATION

Receipt of Donation to Approved Research Foundation

Received from

The Sum of
dollars being a donation to the ASEG RESEARCH
FOUNDATION

\$

In accordance with Income Tax Assessment Act S73A, this
donation to the ASEG Research Foundation is tax deductible.

Signed:

(This form should be retained for tax purposes)

SYDNEY CONFERENCE 1991



Progress on this Conference, to be held in Sydney on 17-21 February 1991, is currently very good.

196 abstracts have been received and booths at the exhibition are filling up. Approximately 80 booths have been sold, with an excellent response from the BMR taking 7 booths.

The first call for registrations is due out shortly.

GEOPHYSICAL ACTIVITY REPORT

OFFSHORE UP - ONSHORE DOWN

The final figures for seismic activity in Australia in 1989 were 9,789 km onshore and 55,158 km offshore. The onshore figure is the lowest by far for over 10 years and the offshore figure shows a remarkable increase over the previous 6 years. (Refer accompanying plot).

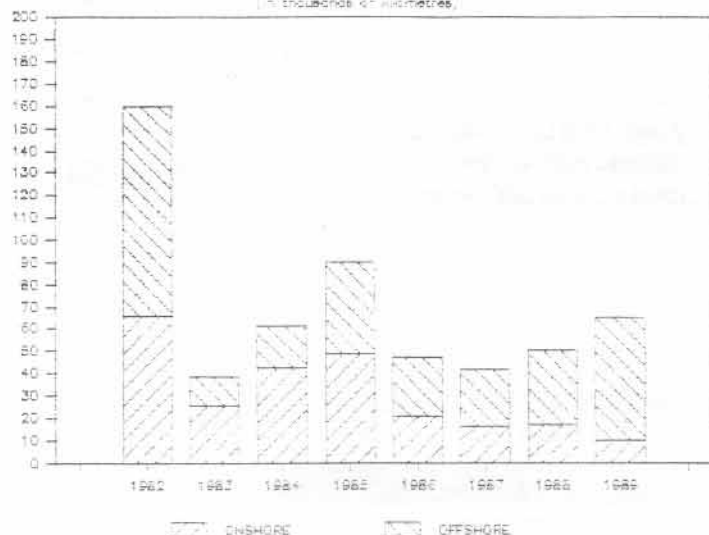
The trend for increasing offshore activity and decreasing onshore activity has continued into 1990 with only 3,379 km shot onshore to the end of May, whereas 39,076 km was shot offshore. By year end at this rate, onshore will be far lower than last year and offshore much greater, making an overall total for the year of possibly in excess of 100,000 km.

Roger Henderson
Chairman

Geophysical Activities Committee

AUSTRALIAN SEISMIC ACTIVITY

(In thousands of kilometres)



SCIENTIFIC GRANT

BEDE MORRIS FELLOWSHIP (RHONE-POULENC FELLOW)

The Bede Morris Fellowship Scheme will provide a grant-in-aid to a senior Australian scientist for travel to France in 1991. The late Professor Bede Morris, FAA, was a distinguished biologist with close connections with French science & strong interests in the interplay of science & culture. Proposals to collaborate with host scientists in France in any field of natural science, basic & applied, or in a field which embraces cultural aspects of science, will be considered.

Applicants should be Australian citizens or permanent residents & should submit with their proposals letters of invitation or other evidence of support from their host institutions. Criteria for selection are the appropriateness & merit of the proposal & the demonstrated achievements of the applicant. The successful applicant will be provided with a return excursion air ticket to France & a grant-in-aid contributing to living & travel costs in France for a period of up to six weeks at a rate of A\$500 per week. The visit may be extended at the participant's expense. The recipient of the award will be called the Rhone-Poulenc Fellow. The programme falls under the Accord for Scientific Co-operation between the Australian Academy of Science & l'Academie des Sciences de l'Institut de France. It is administered by the Australian Academy of Science & supported by donations from colleagues & friends of Professor Morris, Rhone-Poulenc Australia, UTA French Airlines & the French Embassy. Application forms available from:

Australian Academy of Science
GPO Box 783, Canberra ACT 2601
Enquiries: Bonnie Bauld, (06) 247 3966
Application Deadline: 1 August 1990

LETTERS

Letter from J Frazer, President, ASEG SA Branch to B Embleton, Federal President, ASEG regarding ASEG Seismic Sequence Interpretation Workshop.

Dear Brian

As we discussed I have attached an outline of our plan to organise a seismic workshop here in Adelaide. This could be a first step in developing a co-ordinated, continuing, affordable and widely available education programme for professional geophysicists.

I think that the ASEG could adopt a higher profile in continuing professional training for our membership. There is a need for affordable workshop style courses on specialist exploration techniques and we have ASEG members who are capable of organising and leading them.

It is unfortunate but understandable considering the geographical spread of our membership, that we have not established professional training for and by the ASEG. We have several world-class geophysicists who could lead workshops in several areas of specialisation but, under their commercial, institutional or academic hat, are not suitable. The ASEG is in a unique position to offer a training platform which doesn't (necessarily) have a problem with state or academic parochialism and could therefore offer these experts another, more acceptable, hat.

A number of the geophysical courses brought to Australia by overseas organisations have not been good value. I recently attended a 2.5 day workshop which cost \$1200 per head. It was a thinly disguised tout for a service company providing technology which has been around for ten years. The definition of an Expert as 'someone from out of town' (read Australia) is relevant here.

I believe that through the ASEG we can provide training in specialist areas which is of an equivalent standard to, and more appropriate for our membership than commercial products. Periodic scheduling of established workshops with local participation, data and experience using feedback from previous presentations would tune the format to maximise relevance and professional benefit.

A training programme would essentially run itself once the specific modules and standard format was established but, for reasons outlined above, would best be co-ordinated and run by the Federal ASEG. The technical content and presentation for each workshop would initially be developed by members from a local branch. Some excellent fully blown

workshop presentations already exist (eg: Peter Fullagar's 'Funny Methods' which was recently Roadshowed by PESA). Established workshops/courses would then be promoted by the Federal ASEG and offered to local branches, who after negotiating with the workshop leader would organise the venue, promotion and budget. Darwinian culling would operate through this process. The Federal ASEG would 'own' the course notes and data sets.

For geophysicists who are in a position to accept, full commercial daily consulting rates and relevant expenses should be paid. This would provide a commercial 'push' to ensure that after the initial burst of enthusiasm the programme doesn't wither. It would still allow changes less than 25% of that charged by commercial training organisations.

I will keep you informed of developments and invite comments from the Federal committee on the concept.

Reply to Jim Frazer from Brian Embleton, ASEG Federal President

The suggestion made by Jim Frazer to develop low cost training and workshop modules for presentation through ASEG branches is worthy of support. As he rightly points out, workshops with a high level of international flavour can be very expensive. There are many areas where appropriate geophysical expertise exists in this country and we, as a Society, should encourage the co-operation of these experts in raising the level of awareness and expertise in the application of geophysics to resource exploration and management.

The Federal Executive would like to seek the views of members to Jim Frazer's suggestion.

LAURENCE HANSEN B.Sc. M.Sc. GEOPHYSICAL CONSULTANT

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Duncraig, W.A. 6023
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MEMBERSHIP

We welcome new members who have joined the Society:

Member	Category	State
William Ashby	Active	WA
Stephen Aufderheide	Associate	SA
Peter Buchen	Active	NSW
Kathleen Hill	Active	VIC
Matthew Hope	Student	ACT
Steven Leahy	Student	ACT
Guimin Liu	Associate	NSW
Mark McFarlane	Active - Oklahoma	
Michael Michaliadis	Active	SA
Michael Middleton	Active	SA
Kevin Randell	Student	WA
Peter Smith	Associate	WA
John Torkington	Active	VIC
John Woodward	Student	NSW
Carole Wright	Active	NSW

Unknown addresses

We do not have the correct addresses for the following members. Can you help?

Brian Milner
last known address: Schnabel Engineering
Richmond Virginia
USA

B Rumph
last known address: Royle/Rumph Exploration
PO Box 326
LINDFIELD NSW 2070

C A Foss
last known address: 49 Jalan Ulaki
Bandung
INDONESIA

Please contact Paula Sinclair (09) 325 2955 if you are able to provide a current contact for any of the above.

Branch Transfers

Alan Anderson (transferred from SA Branch)
new address: BHP Petroleum
35 Collins Street
MELBOURNE VIC 3000

Brian Embleton (transferred from ACT)
new address: CSIRO
Division of Exploration
Geoscience
PMB 601
WEMBLEY WA 6014

Mark Leonard (transferred from SA)
new address: Jamison House
PO Box 378
CANBERRA ACT 2600

Bruce Preston (transferred from NSW Branch)
new address: Jarden Morgan Australia
Level 29
Riverside Centre
123 Eagle Street
BRISBANE QLD 4000

Change of Address

Allan Perry
new address: 108 Huntley Street
GOOSEBERRY HILL WA



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