PREVIEW

AUSTRALIAN SOCIETY OF EXPLORATION GEOPHYSICISTS

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Contents

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Introduction

This year our President, Brian Embleton, decided to formalise the Council meeting which is normally held during Conference week. Minutes were taken and it was found to be an ideal way to canvass ideas from the State Branches and give direction to the way the Society is run in the future.

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The Society has been advised that, under the new corporations law, existing company registration numbers will be replaced by a unique identifying number known as the Australian Company Number (ACN).

All officers who have documents required to carry the ASEG name (letterhead, seals etc) must ensure that ASEG's ACN number - ACN 000 876 040 - is inserted in the first instance after the company name.

Anita Heath
Editor

Branch News

NSW

At the Annual General Meeting of the New South Wales Branch of the ASEG held on 8 January 1991, the following were elected unopposed:

President:	Chris Hodge
Vice President:	Nigel Jones
Secretary:	Scott Gagen
Treasurer:	Len Diekman
Membership Secretary:	Greg Blackburn

Scott Gagen
Secretary

WA

The local branch AGM will be held some time in March - at a date to be announced. The committee are now taking nominations for all committee members. Please contact Kim Frankcombe on (09) 322 1799 before we contact you!

Kim Frankcombe
Secretary

1991 Annual General Meeting

The Annual General Meeting of the Australian Society of Exploration Geophysicists was held in Sydney on 22 February at the Darling Harbour Convention Centre during the Conference. An important item on the agenda this year was the role of a "Business Manager" to eventually supervise the business of a Secretariat.

The ASEG Nominating Committee, consisting of the President and the two most recent past-presidents, has nominated an incoming Executive [ASEG Articles, Item 49(i) to (iii)].

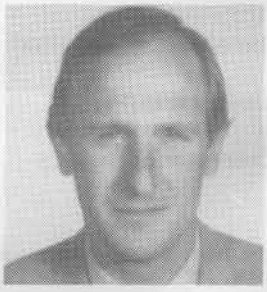
President:	Norm Uren, Curtin University
1st Vice Pres:	Mike Sayers, WAPET
2nd Vice Pres:	Robyn Scott, BHP Exploration
Treasurer:	Craig Dempsey, Marathon

In addition, the following persons have agreed to serve on the Executive Committee:

Secretary:	Andre Lebel
Preview Editor:	Andre Lebel
Hon. Editor:	Don Emerson, Sydney Uni
Members:	Brian Embleton, CSIRO
	Greg Street, Mackie Martin

As there was not a quorum at the AGM these nominations will be put to a meeting to be held in conjunction with the WA Branch on 27 March at the Raffles Hotel at 4.30 pm.

The following are profiles of some of those nominated for key positions on the 1991 Committee:

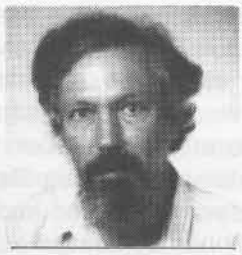


Craig Dempsey

Craig is a senior Geophysicist with Marathon Petroleum Australia Pty Ltd. Since graduating from Flinders University in 1977 with an honours geophysics degree he has worked mostly in the petroleum industry. Firstly he had several contract jobs including working for CRA (through the university) and Kennecott. Since then Craig has worked for Western Geophysical, Delhi Petroleum,

Australian Occidental and, for the last six years, for Marathon Petroleum Australia Pty Ltd.

Andre Lebel



Andre Lebel is a geophysical consultant with Datascience. He graduated from the Colorado School of Mines with the degrees of Geophysical Engineer and M.Sc (Geophysics). He has worked in North America, Central America and West Africa for mineral exploration and contracting companies (Anaconda, Huntec, International Nickel, SOQUEM and BHP Minerals). He is a member of the ASEG, SEG, IEEE and AIG.

Mike Sayers

Mike is Chief Geophysicist with West Australian Petroleum Pty Limited. He graduated with a B.Sc. (Geophysics) from the Western Australian Institute of Technology in 1987, gaining his early grounding in the minerals industry, working in the far north of Western Australia and in the state's goldfields. His early work was mainly with Western Mining Corporation. In 1977 he moved into the petroleum industry, joining Geophysical Service International in Perth as a Marine Quality Control Geophysicist, working mainly in the Carnarvon and Gippsland Basins. He later joined GSI's Seismic Data Processing centre in Perth, before joining West Australian Petroleum Pty Ltd in 1981.

Mike became WAPET's Supervising Geophysicist in 1986, and its Chief Geophysicist in 1989.

Robyn Scott

Robyn is a geophysicist with BHP Minerals Exploration. She graduated from the University of Sydney in 1986 and since then has worked in the mineral industry. Based in BHP Minerals Perth office, she has been primarily involved in base metal exploration in WA.

President's Report to the AGM

by
B J Embleton

The contributions of the two immediate past Presidents, Eve Howell and Greg Street, who have served during the Federal Executives current term in WA, together with the support of the members of the Executive Committee, have combined to provide a strong foundation upon which to continue the work of promoting the benefits of our Society to members and their profession. During the past year, the Federal body has addressed such important policy issues as editing and publishing, student and academic liaison, mechanisms to improve communication within the Society, life membership, and recently, whether it is timely to consider the appointment of a full or part-time Executive Officer.

I will touch upon several of these and other points in time, but at the outset I would like to say that we are grateful for the support of members given to formalising our Council meeting held during the Conference and Exhibition. The purpose behind this move is primarily to encourage continuity of dialogue between the Federal Executive, State Branches individually and between Branches and with the Standing Committees of the Society. It has been the view of successive Executive bodies that the Conferences provide unique opportunities for Branch representatives, Chairpersons of Standing Committees and the Federal Executive, to meet and discuss issues and plans that benefit from wide discussion. It is also an opportunity for members of Council to express views, make constructive criticism and generally to develop and share values of national concern to our Society. Probably the most important objective for Council is to address broad policies and the direction of the Society for the future. As a body, we do not get together often, that is understandable, but when we do it is imperative that we capitalise on the opportunities presented. The outgoing President last year commented in his annual report that the transfer from State to State is not a smooth transition - I believe that the management process and practices we adopt for the future should aim to smooth interstate moves to the point where the location of the Federal body is almost transparent to the Branches and members.

The cornerstone of our Society's activities is the regular publication of Exploration Geophysics. That is the single most important activity that together we can maintain standards. The

Executive has been concerned this year with enhancing already outstanding contributions to the publication of Exploration Geophysics made by Don Emerson, our Editor and Terry Crabb who is responsible for publication. We support the introduction of a network of Assistant Editors to support Don and Terry and negotiations with them have commenced to address such appointments.

Exploration Geophysics has now been accepted for inclusion in the SEG cumulative index. Our liaison officer with the SEG, and incoming President, Norm Uren, is to be congratulated for helping to achieve this distinction. He has built successfully on groundwork laid by Roger Henderson and on the internal SEG support given by Brian Spies. As well as closing a chapter in protracted negotiations, this move creates a new dimension for our own Society's major publication. An identified benefit to indexing might also be that we can attract a greater volume of quality papers for publication in Exploration Geophysics.

Anita Heath has continued her outstanding contribution to the production of our newsletter Preview. Her professionalism is obvious from the continuing improvement to its quality. The assistance provided by Paula Sinclair towards the production of Preview is also acknowledged. The Society is indebted to the Chamber of Mines and Energy of WA for its generous donation of Paula's time and expertise to assist with operating the Secretariat.

The Research Foundation is evolving well under the guidance of Bob Smith, its Chairman. It has attracted donations from members and Corporate sponsors totalling around $10,000.00. The Federal Executive has also committed $10,000.00 of the Society's funds to the support of the Foundation ensuring that research projects will be supported during 1991. I see the development of the Research Foundation as further evidence that our Society is having a wider impact upon the development of the geophysics discipline and that it is reflecting our maturity. Support for its activities is to be encouraged from all of our members.

Encouraging education in geophysics and a concern for the quality and content of relevant courses have provided the motivation for Brian Evans and the Student and Academic Liaison Committee that he chairs, to work towards the development of a specific charter which expresses the educational values that we as members of the Society wish to see promulgated. A number of iterations of the Charter have been developed and its completion is imminent.

The Society emerges from a successful year, with some unfinished or continuing business, but in a strong position financially to tackle new business opportunities in 1991. The standards set by former Treasurer Bill Peters have been maintained by Craig Dempsey. Craig has also overseen a detailed audit of the Society's books which has confirmed our economic health. The coming year should see the publication of the first ASEG monograph "Australian Oil and Gas - Case Histories", though much work remains to be done by Eve Howell and Mike Middleton: it is probably not too early to commence planning a successor to archive further important geophysical achievements in the exploration for minerals, oil and gas.

That our Society also is a professionally healthy one is evident from the obvious imminent success of the Sydney Conference and Exhibition. The organisers, under the dual guidance of Wes Jamieson and Tim Pippet, have demonstrated their ability to draw together key industrialists, researchers and educationists with an impressive array of conference exhibitors. There is a downside of course, and that is that following such an intense period of complete dedication to ensuring a successful outcome, the recovery period is not insignificant. This factor influences the choice of location for Federal duties. By 1992 it is anticipated that our Victorian colleagues will have recovered sufficiently from the successful Melbourne Conference and Exhibition held in September 1989, to host the Federal Executive for a term.

The question of an Executive Officer has been discussed on a number of recent occasions. The time is fast approaching to consider this as a serious option for our Society. The Branches, through their activities will remain the most effective operational arms of the society. An Executive Officer could tap their collective wisdom to provide for the Society, coordination of activities, continuity as the Federal body moves from location to location, and relieve some of the burden associated with organising the Conference and Exhibition.

In closing, I would like to pay tribute to my colleagues who have served on the Federal Executive during 1990, to the chairpersons of our Standing Committees, to the Conference and Exhibition organisers, and to our colleagues responsible for Editing and Publishing. The

Honors and Awards Committee too, under Lindsay Ingall's chairmanship, has continued to provide a highly visible service to us all. I wish to specially acknowledge the contribution made by Greg Steemson, second Vice-President, who has liaised with the Conference Organisers this year and provided much valuable guidance on the conduct of the affairs of our Society, as he steps down from the Federal Executive.

I present this annual report for the consideration of all members and look forward to serving the Society during 1991 in my capacity as Past President whilst the Federal Executive continues to function in WA for one further year.

Secretary's Report to the AGM

by A Lebel

Review of 1990

This year, the Secretariat was managed by Paula Sinclair of the Chamber of Mines and Energy of Western Australia Inc. The Society acknowledges Paula's excellent liaison with its membership.

We received technical enquiries from Canada, USA, South Africa, Brasil and Argentina. This is a reflection of the wide dissemination of "Exploration Geophysics" within the international Geophysical Community.

During the year, we gained 67 new members, of which some were reinstatements. We also lost, mainly through non-payment of dues, approximately 95 members. Our Society's present membership stands at 868.

Office Bearers

Members were represented by these directors:

President	Brian Embleton
Treasurer	Craig Dempsey
1st Vice President	Mike Sayers
2nd Vice President	Greg Steemson

Other members of Executive Committee were:

Past President	Greg J Street
Preview Editor	Anita Heath
Hon Secretary	Andre Lebel
SEG Representative	Norm F Uren
Past past-President	Eve Howell
Business Manager	Michael Micenko

Other Office Bearers were:

Hon Editor	Don Emerson
Public Officer	Lindsay Ingall

The following served as Heads of Committees:

Conference Advisory	Steve Mudge
Corporate Affairs	Lindsay Ingall
Geophysical Activity	Roger Henderson
Honours and Awards	Lindsay Ingall
Publications	Terry Crabb
Technical Standards	Paul Wilkes
Student/Academic Liaison	Brian Evans

Branches

These members served on the Committees of the local branches during 1990:

	President	Secretary	Treasurer
ACT	D Johnson	K Wake-dyster	M Sexton
NSW	C Hodge	S Gagen	L Diekman
QLD	H Van Paridon	B Oke	D Burns
SA/NT	J Frazer	N Fitzgerald	P Dunne
TAS	R Richardson	D Leaman	R Richardson
VIC	R Singh	D Gamble	L Thomas
WA	E Clarke	K Frankcombe	M Brumby

Programme for 1991

Erroneous Dues Notices were sent out in 1990, we need to check the operation of the Database programme. This becomes specially critical with the probable transfer of the Secretariat Function to Melbourne. An early decision in this matter is important, since our agreement with the Chamber of Mines & Energy ends in December 1991.

Non-financial ex members will be deleted from the membership database earlier in the year. In this regard, the Conference is an opportunity for a membership drive for reinstated members. Thanks to the NSW Branch for leading by example and appointing a Membership Secretary.

1991 ASEG-GSA Conference & Exhibition

by
Wes Jamieson and Tim Pippett
Conference Co-Chairmen

In the December Preview we reported that registrations had reached 480 by early December and "dared to hope" that the number of registrations could double. We missed, but not by all that much. We are still in the process of compiling the official, "actual" attendance, but the figure will be *in the order of 900.*

When the smoke had cleared on Friday morning (and the eyelids had been coaxed open), we had the general perception that everything had gone okay. It is hard, though, to be totally impartial about something that you've worked on for two years. We hope the membership concurs with our evaluation.

We did do something a little different at this conference. The technical aspect was catered to, as it is at all ASEG conferences. But, we tried to diversify from the purely technical issues into broader issues addressing the responsibilities and future for our industry. Twelve keynote speakers were invited to speak to plenary sessions, these sessions opening each day's proceedings.

These speakers raised a number of key issues that our membership need consider and actively follow up on, if we are to collectively ever be perceived of as more than technocrats. The committee with the special diligence of Mike Smith compiled this summary of significant issues raised:

- The resources industry is Australia's largest export earner. The importance of resources will be even more significant should (as?) rural exports decline and the manufacturing industry fails to grow.
- The resource industry has developed the technology and expertise to sustain this level of export industry, provided this talent is actually applied. The industry has shown that there are still world class ore bodies and hydrocarbon accumulations to be found in Australia.
- The Australian society needs to understand that this is a risk industry. There is no certainty that the levels of production and hence export revenue will be maintained. It is a fragile, unpredictable business with long lead times and no guarantees.
- Government policies tend to support the anti-development lobby in its various forms, creating an environment which deters investment and encourages a poor public perception of this country's most valuable export industry. Many groups are moving their activities to other countries which are more supportive of resource development (eg. Japan, USA, Indonesia, PNG).
- Reducing investment in resources together with negative public perceptions of our industry are discouraging Australia's talented youth from entering scientific courses of study. These students are the key to ensuring the future development of the industry.
- Low levels of financial support for Australia's tertiary institutions and centres of research are already resulting in a decline in the capacities of these essential organizations to provide the technology of tomorrow, here in Australia.
- The resources industry must secure sustained financial and community support to maintain and enhance its major contribution to the Australian economy.
- Expressed more bluntly, Australia should not be looking for a new winner in the array of industries striving to succeed. We should support the winner we have already produced through the hard work and talents of our people instead of moving towards killing it off.
- We have to get off our own "butts" and make it happen - nobody is going to do it for us. So what do we do now?

That's what we think Exploration in a Changing Environment was all about. Thank you to the 300 oral, poster and video presenters, the 90 plus exhibitors in 140 booths, the sponsors for their most appreciated support and to the members of the ASEG and the GSA.

Conference Awards

Best Paper - "*one on geochem*" - "Thermal Histories and Illite Growth in Sedimentary Basins" - by P J Hamiliton and M Giles. (It must have been an integrated conference).

Best Presentation - R Hillis for "Australia - Banda Arc Collision and in Situ Stress in the Vulcan Sub Basin" (Timor Sea) As Revealed by Borehole Breakout Data.

Best Poster - "Engineering Seismic Refraction: An Improved Practice and a New Interpretation Program, REFRACT" by C Walker, R J Whiteley, T M Leung, M A Win.

Best Exhibition - Econ Technology Pty Limited.

We hope everyone who attended came away a little bit more "enriched in their profession". We enjoyed doing it! It's now on to the Gold Coast in 1992. Good luck Barry, Richie and the Committee. We wish you success and satisfaction. We'll endeavour to compile a conference 'wrap-up' with some final statistics and summaries for the next Preview.

Remote Sensing

Integrating Remote Sensing and Geographic Information Systems for Mineral Exploration

Nick Rollings
(BSC Hons Adel, M App Sc UNSW)

Introduction

The analysis of remotely sensed data has proven its usefulness as a tool for mineral exploration. Techniques using spectral analysis to map mineral species as well as structural interpretations based on remotely sensed imagery such as that derived from the Landsat series of satellites are now common in exploration programmes. However, as more data becomes available it must be efficiently managed and analysed in conjunction with a variety of existing, more conventional data sets such as geophysics, geological maps and air-photo interpretation to name but a few. The advent of PC based geographic information systems now makes it possible (and affordable) to handle this ever increasing volume of data and synthesize it into usable information. In order to demonstrate the application of these two complementary technologies to mineral exploration a small study site was chosen.

The Study Area

The field area used in this study is located in the vicinity of the Warrakimbo Gorge in the South Western Flinders Ranges of South Australia. The Gorge is located 75 km NNE of Port Augusta. The region has been prospected for copper since 1863. Of more importance, however, is the occurrence of several economic deposits of the industrial mineral micaceous hematite. Micaceous hematite is quite abundant in the Flinders Ranges but is rarely found in economically mineable quantities. Indeed, until recently its economic potential has been unrealised and subsequently its occurrence was rarely documented during past geological investigations Deposits tend to be small and poddy in nature and therefore not amenable to more traditional geophysical exploration techniques.

Rollings (1985) proposed a mineralisation model for the Warrakimbo Micaceous Hematite Deposit. Three facets of the model were utilised in this study. The mineralisation only occurred in carbonates and in particular within the Etina Limestone. Mineralisation occurred in areas of substantial faulting. Alteration of the host lithology to dolomite accompanied the mineralisation and the dolomite weathered to a unique orange colour.

Method

This project sought to develop a methodology to efficiently explore large areas of terrain for micaceous hematite and any associated minerals.

Extensive ground truthing of the area has been undertaken in the Warrakimbo region. As such, detailed ground truth information is available against which the accuracy of the method could be tested.

Data pertinent to the mineralisation model was then collected in readiness for analysis in the Geographic information System (GIS).

Landsat MSS imagery was acquired over the study area and a paralell piped classification was undertaken using training areas derived from known mineralisation sites. This simple approach to classification was undertaken in an attempt to map out areas of similar spectral response based on the unique colour of the dolomite and the occurrence of surface accumulations of iron. No image rectification procedure was available on the image analysis facility and therefore the imagery was left unrectified. The results of the classification were incorporated into the GIS via a rastervector conversion. Once in vector form and resident as a layer in the GIS it was transformed into the AMG. This was difficult as the identification of accurate ground control points was contingent upon their selection prior to the rastervector conversion. To allow for these errors the point features identified during the classification were buffered to a distance of 500m.

The Landsat imagery was also structurally interpreted for lineaments which would be used as an indicator of structural activity. These lineaments were contoured, according to density, as number per square kilometre.

Aerial photography at a scale of 1: 40 000 was also interpreted for structural lineaments and contoured in a similar fashion to the Landsat lineaments. Both the Landsat and aerial photograph lineament maps and lineament density maps were digitised into the GIS. The Landsat derived lineament density contours and those derived from aerial photography were used separately in comparison to the other layers. This

enabled a comparison between the larger scale aerial photography and the more regional Landsat imagery for mapping faulting which might be of significance to micaceous hematite mineralisation.

A 1: 250 000 geological map for the area was digitised into the GIS. The detailed geological map available over the area was not used in an attempt to simulate a real "grass roots" exploration scenario. Using the database querying capability of the GIS, any lithology could then be selected for the analysis. In this case, all limestone units were selected.

Geographic Manipulation of the Layers in the GIS

At this stage, not all layers were in a standard projection, the Australian Map Grid. In order to geo-reference each layer a series of ground control points were selected that could be located on all layers. The transformation capabilities of the GIS were then used to minimise the geometric distortions within each layer.

The assumption was then made that all those areas with a carbonate lithology, having high structural activity and similar spectral properties to the known deposits would be the most likely areas for mineralisation. Using the overlay capabilities of the GIS the data layers described above were combined to reflect the above assumption and hence the mineralisation model. The overlay procedure is outlined in figure 1.

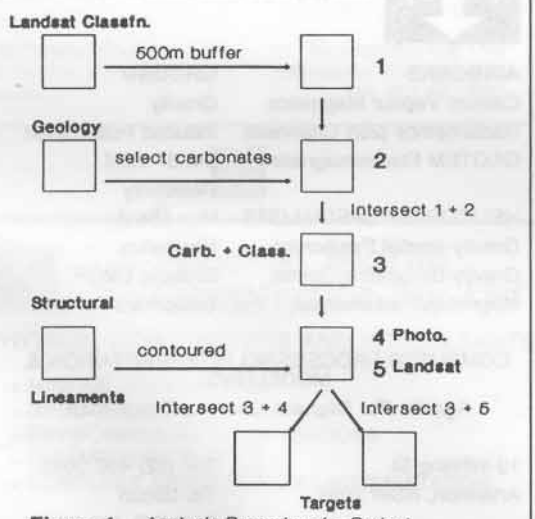


Figure 1 Analysis Procedure for Project

Figure 1

Results and Discussion

The results of the procedure were very encouraging. Eleven target areas were identified using the photo derived lineament controus and six target areas were identified using the Landsat MSS derived lineament controus. Table 1 summarises these target areas and provides an assessment of whether signs of mineralisation were discovered and if not why the areas were selected by the method. The geographic co-ordinates are not given.

Using the photo lineament controus only one area of known mineralisation was not detected. This fell between area 9 and 10 but was only present as a small region of dolomite (DOL) with minor micaceous hematite (MH) float. Of the six targets derived from Landsat lineament controus all sites investigated showed either MH, DOL or ferruginisation. Several sites of mineralisation were missed however. Of the eleven sites selected by the aerial photo method all major areas of mineralisation were detected with two sites being false targets. All other targets showed signs of ferruginisation and/or dolomitisation.

Table 1

Summary of Target Areas Derived From Aerial Photography and Landsat Lineament Analysis

Target	Signs of Mineralisation	Comments
1	DOL	heavy ferruginisation in folded limestone
*2	DOL	as for 1
*3	MH DOL	known deposit of MH
4	MH DOL	known deposit of MH
5	NIL	no apparent reason for selection
6	NIL	adjacent to 5
7	DOL	prospective for sub-surface mineralisation
*8	DOL	as for 7, small ocurrence
9	MH DOL	mineralisation found easily
*10	Site has not yet been investigated	
*11	NIL	heavy ferruginisation in Etina limestone

Landsat also detected one other area which showed extensive dolomitisation but no traces of mineralisation.

MH = micaceous hematite

DOL = dolomitisation

* = indicates areas selected by the Landsat method

Continued on Page 13

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Conclusion

Although very simple, this study shows one way in which remote sensing and geographic information systems can be used in the exploration process. It is hoped that those new to the technology will see the benefits and devise other applications pertinent to their own organisations.

In this project the use of GIS afforded several benefits. The handling of large amounts of spatial data was easy, automated overlay procedures were available, rectification of information derived from aerial photography was possible and finally, an output map suitable for use in the field could easily be obtained. One major problem was the lack of an adequate geological map. Smaller occurrences of limestone are not identified on a 1: 250 000 map. It is also bad practice to overlay data sets of different scales in a GIS. To overcome these problems the use of Landsat TM was proposed to try and map the carbonates at a more appropriate scale. The results of this study have been reported elsewhere.

Bibliography

Rollings, N.M., (1985) *Micaceous Hematite Mineralisation and Geology of the Warrakimbo Gorge, S.W. Flinders Ranges, South Australia*. Unpub. Hons. Thesis, Adel. Uni.

Advertising in the Professional Directory

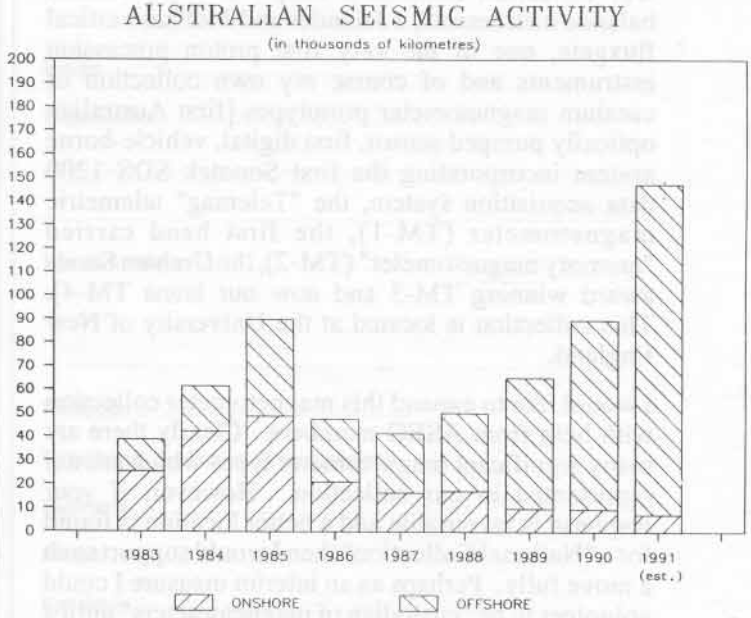
As at 25 March 1991 the cost of a business card size advert in the Professional Directory will be $75 over six issues.

Any larger adverts will need to be negotiated with the editor.

Geophysical Activity Report

R Henderson
Geophysical Activities Committee

Offshore seismic survey activity for 1990 has shown a 45% increase over the previous year at 79,877 kms (see Figure 1). This is at the highest level since the record year of 1972. The current forecast for 1991 suggests an even higher rate of increase of about 50% with the estimated total being somewhere between 125,000 and 155,000 kms. Even if it only reaches the minimum value in this range, it will exceed the record year of 1972, which was 123,000 kms.



By contrast, the *onshore* activity is continuing to decline with the total for 1990 being 9 497 kms, down on the previous year. This is the lowest figure for onshore activity since 1979. The forecast for 1991 is for this to continue to decline to an estimated 6,000 to 8,600 kms.

Even if only the minimum amount forecasted for both onshore and offshore is achieved in 1991, the total will be a record for the last 23 years for which I have figures, wherein the current record is a total of 128,550 kms in 1972.

Most of the offshore activity forecast for this year (107,000 kms) will be in the Carnarvon Basin, where discoveries such as Wanaea, Griffin, Cossack and Ramillies have been made during the last 18 months. It is also interesting to note that most of the surveys will be carried out using 3D seismic.

Letters

Geophysical Museum Pieces

Letter to G Street, Past ASEG Federal Executive President from John M Stanley, Director, The Geophysical Research Institute, University of New England, Armidale NSW

Dear Greg

I have just read with interest your call for the establishment of a museum of geophysical pieces. For some time now I have been meaning to make a similar call and you therefore have my support.

I have already established a museum of exploration magnetometers having also seen the one in London. Our collection contains a couple of early torsion balance instruments, a Jalander and McPhar vertical fluxgate, one of the very first proton precession instruments and of course my own collection of caesium magnetometer prototypes [first Australian optically pumped sensor, first digital, vehicle-borne system incorporating the first Sonotek SDS 1200 data acquisition system, the "Telemag" telemetric magnetometer (TM-1), the first hand carried "memory magnetometer" (TM-2), the Graham Sands award winning TM-3 and now our latest TM-4]. This collection is located at the University of New England.

I would like to expand this magnetometer collection with help from ASEG members. Clearly there are many significant magnetometer types which are not represented in our collection. However, if your response is favourable and a better location is found for a "National Collection" then I would support such a move fully. Perhaps as an interim measure I could volunteer to be "custodian of magnetometers" until a central museum is established.

I look forward to hearing about your response.

Yours sincerely

John M Stanley

Director

Improving interest in the Earth Sciences

Letter to ASEG Secretary from Dr K Sundaralingam, ASEG member.

Dear Sir

One of the main concerns expressed in a recent ASEG newsletter is the lack of interest in schools for earth science courses and the decline in the growth of membership of ASEG.

I think there are a number of steps that one could take to improve the situation, such as writing popular articles in newspapers and magazines; setting up displays and demonstrations of natural events and structures at the appropriate places at the appropriate times (beginning and end of Academic year).

Furthermore, fundamental concepts within earth science units should be stressed and its interdisciplinary importance must be stated; like in Civil Engineering and Economics.

The fact that natural disastrous events can be predicted, controlled and energy from them can be utilised for the betterment of human beings should be explained.

Finally, job opportunities at various institutions for an earth science graduate must be stated.

Yours sincerely

Dr K Sundaralingam

Exploration Geophysics" Bulletin

Letter to Preview Editor from K Vozoff, Centre for Geophysical Exploration Research

Dear Ms Heath

Bob Smith, recently retired from Peko Oil, would like to dispose of his collection of journals to a University. He has an essentially full set of Geophysics, including the Early Geophysical Papers, to 1990, and Geophysical Prospecting volumes 13-38 inclusive. The recipient would be responsible for costs of packaging and shipping.

Anyone interested should ring Bob on (02) 437 4985.

Yours sincerely

Keeva Vozoff

Member Profile

Friedemann Wenzel

Friedemann Wenzel has recently joined CSIRO Division of Exploration Geoscience as PRS and Macquarie University, School of Earth Sciences as a fellow. Both institutions are located in North Ryde, Sydney.

Friedemann received his diploma in geophysics in 1979 at the University of Karlsruhe in West Germany. The same year he joined the marine seismology group of Columbia University's Lamont Geological Observatory in New York where he was involved in processing and numerical modelling of reflection seismic data.

After 1 1/2 years he returned to Karlsruhe University. He joined the group that started the reflection seismic probing of the deep crust in Germany (DEKORP) and participated in seismic site surveys in the context of an ultra-deep continental drilling program. He worked mostly on the development of new processing techniques, suitable for deep reflection data and numerical modelling of crustal seismic wide-angle and near-vertical data.

In 1985 he completed his PhD on forward modelling and inversion of reflection seismic data.

In 1986 he became the project leader of a joint French/German venture aiming at the investigation of the deep structure of the Rhinegraben in SW-Germany/Eastern Grance. The program focussed on the acquisition and interpretation of two deep seismic reflection lines across the graben, shot in 1988.

In 1987 he became an Associate Professor.

In Australia he intends to leave the very deep levels of the earth's crust and to focus on hydrocarbon and mineral exploration problems of the country. Improvement of seismic images in structurally complex areas, and cross-hole seismic work in mineral exploration (coal and metals) will be his main interests in the future.

ASEG Research Foundation

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. 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 acknowledged in "Preview".

Joe Cucuzza
Secretary

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Membership

Membership fees for 1991 were due in January.

The following fees are effective:

	Local	Overseas	
		Airmail	*Seamail
Active	A$45	A$105	A$65
Associate	A$45	A$105	A$65
Student	A$15	A$75	A$35
Corporate	A$275	A$335	A$295

*Please note: Seamail can take up to 3 months delivery to some destinations.

New Members

We welcome new members to the Society:

Member		Category	State
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WOLFE	PJ	Active	USA
RANDON	CR	Student	NSW
HAMALAINEN	MT	Active	FINLAND
KNEALE	RL	Active	WA
KISSITCH	V	Associate	QLD
McFADDEN	PL	Active	ACT

Change of Address

Bimal Banerjee has resigned from Digicon after 20 years association with its various divisions to pursue other interests and consulting work. He held a number of key positions in Digicon including Vice President, President Director and General Manager of Australian and New Zealand Operations.

Bimal joined Digicon in 1971 and worked in Singapore (1971-1983), Indonesia (1983-1984) and in Australia since 1984. Prior to joining Digicon, Bimal had worked for WAPET (1970-1971) in Australia as a Senior Project Geophysicist and Geophysical Service International (1063-1969) in the United Kingdom, Iran, Saudi Arabia, Libya as a Geophysical Engineer, Seismologist and Party Chief.

His new mailing address is:

5 Belfairs Street
ROBERTSON QLD 4109
Tel: (07) 344 1145