

AUSTRALIAN SOCIETY OF



EXPLORATION GEOPHYSICISTS

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EARTH RESOURCE MAPPING

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CONTENTS

INTRODUCTION	1
ASEG BRANCH NEWS	1
1990 ELECTIONS	3
CONFERENCE UPDATE	4
MONOGRAPH UPDATE	5
GEOSCIENCE IN SCHOOLS	5
PROFESSIONAL DIRECTORY	9
CORPORATE MEMBERS	12
ASEG RESEARCH FOUNDATION	14
LETTER	15
MEMBERSHIP	15
CALENDAR OF EVENTS	16
CONFERENCE CALLS FOR PAPERS	17

INTRODUCTION

It has been a busy start to the year with preparations for the Society's AGM well under way.

The publication of this newsletter has been sponsored by Earth Resource Mapping, one of our new corporate members.

Longstanding ASEG member, Norm Uren, returned from Texas. An Australia Day BBQ was held in honour of Dr Uren's return and he was soon approached by the Executive and offered a position on the 1990 committee. His experience will be invaluable.

The Sydney 1991 Conference Committee have been actively planning their event, although at this stage, the format of the Conference Bulletin is still controversial. The first ASEG Monograph is being compiled and the editors report they have an excellent response for papers.

The Sydney Conference on Chaos was a sell-out with 3000 people trying to crowd a lecture theatre to hear guest speaker Professor Mandelbrot. To quote the editor of a well-known geophysical newsletter, "It is not clear whether the chaos refers to politics or the economy". I am sure that chaos algorithms can be applied to both these topics.

Haliburton Geophysical have launched their new seismic vessel, the M/V Merlion in Singapore. It is the 16th vessel operated by HGS around the world and will be available for worldwide geophysical exploration.

The Newcastle Earthquake came as a surprise to many geophysicists. We hope to run a feature on recent earth tremors in our next PREVIEW.

The Editor

ASEG BRANCH NEWS

A.C.T.

A Happy New Year to all ASEG members and may 1990 bring bigger ore deposits, petroleum prospects and research funds to all concerned. For those members who attended the joint Christmas function, and possessed good hearing, an enjoyable time was had by all, with an excellent post dinner talk by David Denham on the subject of "Science and Politics".

The New Year was started with a January meeting where guest speaker Dr. Richard Hillis, from Flinders University, gave a talk on "Post Permian subsidence and tectonics of the Vulcan Sub-Basin, NW Shelf, Australia." Following the meeting, Richard was the guest of the branch for dinner at the Lantern Restaurant.

For information on future branch meetings contact the Secretary, Kevin Wake-Dyster on 499401.

*Kevin Wake-Dyster
Hon. Secretary*

N.S.W.

The New South Wales branch held their Christmas Dinner on the evening of the 5th December at the Lord Nelson Brewery Hotel in the Rocks, Sydney.

The highlight of the evening was a talk by the Brewer on the Hotel's products, followed by the



tasting of a variety of ales. The January meeting heard Dr. Peter Annan from Geotrex Canada speak on "The Power and Flexibility of the New Geotem Airborne EM System". Despite the fact that Peter only arrived the day before, he was able to present a most interesting and entertaining talk.

Dr. Peter Gunn, a long serving N.S.W. branch committee member, is now based in London. Peter's enthusiasm and contributions over the last 5 years will be sorely missed by the branch committee and we all wish him the best of luck in the U.K. Peter indicated that he intends to visit during the upcoming Sydney Conference.

The next meeting will be at the Rugby Club in Crane Place, Sydney on 27th February. Richard Smith of Macquarie University will discuss "Obtaining Conductivity-Depth Sections from Airborne Measurements".

*Scott Gagen
Secretary*

VIC

The Annual General Meeting was held on 16th December, 1989 at the Cafe Legend. The meeting was well attended by members, wives and assorted hangers on. The financial accounts were accepted and after a hard fought election, the following were elected unopposed:

PRESIDENT:	Robert Singh	Tensor Pacific	6479832
VICE PRES	Peter Grant	BHP Petroleum	6527403
SECRETARY:	David Gamble	Billiton Aust.	6665051
TREASURER:	Lindsay Thomas	Melbourne Uni.	3446521
COMMITTEE:	Craig Gumley	Pac. Oil & Gas	8953000
	Eric Allison		6665058
	Tom Eadie	Aberfoyle Expl.	8822226
	Denny Rompotes	Tensor Pacific	6479831

On 31st January 1990, Dr. Peter Annan gave a very interesting lecture on the GEOTEM airborne EM system. This equipment offers considerable promise for exploration in Australia.

*David Gamble
Secretary*

W.A.

A combined Federal and State branch A.G.M. will be held at the Raffles Hotel, River View Room at 4.00 pm, February 28th 1990. This will be followed by an informal presentation by Dr. Norm Uren who has recently returned to the staff of Curtin University from the U.S.A. The presentation is entitled "Australia: You Bloody Beauty!". Don't miss it. The format will be:

4 pm	Federal A.G.M.
5 pm	State A.G.M.
5.30 pm	Guest Speaker

The bar will be open from 4 pm. Light snacks will be provided following Norm's presentation. The Federal Executive will be sponsoring the evening.

Nominations for the incoming W.A. branch committee are:

President	Euan Clarke	Tesla - 10
Vice President	?	
Treasurer	Mike Brumby	W.M.C.
Secretary	?	
Committee	Ian Edwards	W.M.C.
	Brian Evans	Curtin
	Kim Frankcombe	Aerodata
	Graham Bubner	C.R.A.
	Terry Walker	W.M.C.
	Roger Clifton	Independent
	Richard Williams	Tesla - 10
	Cameron Blyth	National Venture

Nominations are requested for the positions of Vice President and Secretary, as these will be vacated as of the A.G.M. date. Further positions on the committee are also available. All enquiries and nominations should be directed to Terry Walker on (09) 482 2444.

An informal beach cricket match will be held in mid-March. Further details to follow.

*Terry Walker
Secretary*

QLD

A very congenial evening was spent by members at the Malaysian Experience Restaurant at Toowong on Saturday, 9 December.

The Queensland branch held their inaugural 'Students Night' on 5 December. Presentations were given by four Queensland University Honours students. The students and their supervisors are to be congratulated on the quality of the papers. The Best Presentation award was won by Troy Peters and the Best Paper award was won by Terry Folkers. The abstract of Terry's talk follows.

*Danny Burns
Secretary*

Dual Analysis of Multiple Source Magnetic and Gravity Field Anomalies Using a Moving Window Analysis of Poisson's Theorem.

Terrence Folkers, B.Sc

A thesis submitted in partial fulfilment of the requirements for the Degree of Bachelor of Applied Science with Honours in Geophysics.

At a first glance Poisson's Theorem appears to be an extremely restricted equation in the context of Geophysical exploration. The theory itself only allows for simple model configuration. However, its application to the analysis of more complex models, such as multiple source models, can be achieved. By continuously fitting a windowed section of the gravity and magnetic anomalies to a modified Poisson's theorem it is possible to investigate some basic yet important model properties. To be more precise, within a moving data window a linear regression is performed between the gravity data's first vertical derivative and the magnetic anomaly transformed to the pole.

The moving window linear regression generates three parameters viz. the correlation coefficient, slope and intercept. Plots of these three form the basis of the interpretation. These plots may yield

information concerning the model's magnetization to density contrast ratio, magnetic field background strength, number of sources, relative source sizes and source depths.

It is a simple and rapid technique which in conjunction with other information has the potential to resolve complex anomalies. However, complex models present complex problems. For some models large amounts of noise are generated in the regression plots and tend to obscure reliable interpretations. Thus, the identification of any region along the data profile where reasonable estimates are generated is of the utmost importance. Examination of the effects that the model parameters have on the regression parameters yields a greater understanding of the technique.

1990 ELECTIONS

The Annual General Meeting of the Australian Society of Exploration Geophysicists will be held in Perth on 28 February at the Raffles Hotel. This year it is hoped that the new committee will be expanded to include more officers with specific responsibilities in areas such as international affairs, business management, liaison with other societies and membership

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: Brian Embleton, CSIRO
1st Vice Pres: Mike Sayers, WAPET
2nd Vice Pres: Greg Steemson, Metana
Treasurer: Craig Dempsey, Marathon

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

Secretary: Andre Lebel, Consultant
Hon. Editor: Don Emerson, Sydney Uni
Editor of Preview: Anita Heath, Consultant
Members: Norm Uren, Curtin Uni
Eve Howell, Bond Petroleum

Nominated for key positions on the 1990 committee are:

BRIAN EMBLETON

Brian Embleton is Chief of the CSIRO Division of Exploration Geoscience.

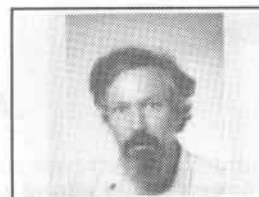
He is a research geophysicist with specific interests in the magnetic properties of rocks. Since 1975 he has worked in CSIRO and helped establish the Rock Magnetism laboratory at North Ryde. During the late 1970's and early 80's his CSIRO group developed a comprehensive R & D program covering many aspects of magnetic petrophysics. Brian Embleton's research has been conducted collaboratively with Australian mineral exploration companies and since 1978 the research group has continuously worked with AMIRA.



ANDRE LABEL

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, Huntex, International Nickel, SOQUEM and BHP Minerals). He is a member of ASEG, SEG, IEEE and AIG.

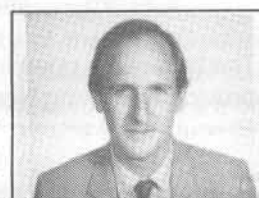


CRAIG DEMPSEY

Craig Dempsey 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 five years, for Marathon Petroleum Australia Pty Ltd.

Prior to becoming the ASEG Federal Secretary last year, Craig was on the WA Committee. He is a member of ASEG, SEG, EAEG and AAPG.



MONOGRAPH UPDATE

The ASEG Monograph 1, "Australian Case Histories", is presently in preparation. Approximately fifteen papers are currently being prepared on various aspects of exploration and development geophysics applied to the petroleum industry in Australia.

Papers have been solicited from most of the companies operating in Australia at the present time. The response has been excellent, and papers have been offered by:

- Aerodata (1)
- Barrack Energy (1)
- BHP Petroleum (?2)
- BMR (1)
- Hadson Energy Ltd (2)
- Marathon (1)
- Taylor Geo-consult (1)
- Wapet (?2)
- Western Mining Corporation (?3)

The editors hope that some of the companies operating in the "east" will come to light with a few more contributions describing the geophysical activity in the very important Cooper-Eromanga, Surat and Gippsland Basins.

Mike F. Middleton and Eve Howell
Editors, ASEG Monograph 1

LOSS OF THE BMR AIRCRAFT

A tragic accident occurred on Saturday, 18 November, 1989 when BMR's twin engine Aero Commander crashed shortly after leaving Canberra at the start of a special aeromagnetic survey. The two persons on board were killed instantly: Glenn Russell-Smith from BMR and the pilot, Martin Chilvers, who was under contract from Skywest.

The aircraft had just set out to fly two long survey loops around the country, measuring total field at an elevation of 150m. The survey was timed to coincide with the start of AWAGS in order to take advantage of the detailed diurnal variation data that are currently being recorded. The special survey was designed to provide information for levelling and patching together local aeromagnetic surveys to obtain magnetic anomaly maps covering larger regions. The data would also have been used to improve the accuracy of future AGRF models.

GEOSCIENCE IN SCHOOLS

President's Report
G J Street

Over the past year the Federal Executive have been examining the role that the ASEG should take in promoting the profession to future generations. This examination has been prompted by the occasional enquiries that we get from school students. These only amount to about 2 or 3 per year. Let's face it, very few school students have heard of geophysics and even fewer would realise that there is an organisation called the Society of Exploration Geophysicists.

In response to these enquiries we conjured up the idea of a nice, glossy careers booklet with pictures of big bangs, survey aircraft, seismic ships etc. The envisaged market was for late secondary to tertiary students. The idea never got past the drawing board.

Geoscience awareness in schools

A few weeks ago I was invited to participate in a meeting on the Geoscience Awareness Program. This was started by the Geological Society and has been expanded in Perth to include all geoscientific and exploration related societies.

The meeting discussed the role of all societies in promoting geoscience at a secondary level. For most geologists this means teaching geology in secondary schools and the Geological Society has been very active in this regard in W.A. They have formed a committee consisting of professionals and at least one teacher to rewrite the curriculum.

On a cursory examination of the draft curriculum I soon found a short section on geophysical surveys. It was only one lesson in the whole year 9 course but what concerned me most was that it contained some bad errors. Oh, I can see a fortune could be made by what they propose but its not technically feasible today. I'm not saying what it is however until I've done some more investigation. Fascinating reading anyway!!

Where does all this take us in terms of promoting geophysics as a profession. School curriculum in geology, from my examination, is largely dominated by what I would call "Hobby Geology". It has been written largely by geologists who have had little exposure to geophysics. There are consequently larger sections on gemstones and dinosaurs than geophysics. This is typical all the way through university. I commented at the opening session of the Melbourne conference, geologists come out of university with a better understanding of fossils than of geophysics. They then expect a job in exploration

where like as not they will never see another fossil but geophysics will play an integral part.

However, students do get exposed to a little geophysics fairly early in school. If we are to attract students towards a career in "Exploration Geophysics" then we should start with the very young. We also need to ensure that other professions with which we work are aware of what geophysics can do for them, be they geologists, engineers or environmental scientists.

We need to find out what is being taught about geophysics in the school curriculum and to ensure that it is correct. This includes both in the physics and geology courses. When each student makes their personal career decision varies greatly. However they need to know the career option exists before that decision can be made. Geophysics needs to be presented as an existing option for those interested in science.

What I would like to see is a committee set up in each state (because we still don't have a standard Australian Curriculum). These committees need to examine the school curricula and to advise the relevant State Education bodies where possible. I believe that it is largely a state branch role and will suggest it to the branches. I would appreciate a comment from all the members on such an action.

Careers Booklet

A second thing I learnt at the meeting was that careers brochures don't usually get read by students. There is a mass of information available for the average student. What matters most is the "JOB GUIDE". This is produced nationally and goes out to all "Youth Education Officers". We followed this up and found we had about 3 days left to get "GEOPHYSICIST" into the 1990 guide otherwise we would not exist as a career. With great haste Anita Heath and I put together the guide you see published in this issue of "PREVIEW". I hope you all can find your own specialisation covered.

In addition we found that a South Australian Company puts out the "Johnny Green Guide to Careers in Mining". Geophysics rates about 10 lines in that brochure. This is distributed by groups such as the Chamber of Mines and Energy in each state.

We would appreciate it if members could advise us of other material available to students intent on a geophysics career. Please send me examples.

GEOPHYSICIST

Geophysicists study the earth using physical measurements to obtain information on the structure and composition of zones below the surface. They explore for hydrocarbons and minerals using techniques such as seismic, gravity, magnetic and electrical methods. Their work can be onshore or offshore often in remote areas.

The majority of geophysicists specialise in either petroleum or mineral exploration but there are also groundwater, environmental, engineering and solid earth geophysicists. They are employed by oil and mineral exploration companies, geophysical survey contractors to exploration companies, data processing centres, computer software development companies, equipment manufacturers and vendors. groundwater and environmental groups, state government geological surveys, the Australian Bureau of Mineral Resources, CSIRO and universities.

Geophysicists perform the following tasks:

- supervise the acquisition and processing of seismic data for petroleum exploration, interpret and map prospects on which to drill a well.
- plan, conduct and interpret geophysical surveys in the exploration for mineral commodities such as gold, base metals, diamonds and coal using various electrical techniques, magnetic or gravity surveys.
- design, develop and operate computer systems for the processing and interpretation of geophysical data sets. The petroleum industry is one of the largest users of computers for mathematical data processing and uses large main frame computers. Mineral exploration data processing is usually carried out on personal computers or small main frames.
- plan, conduct and interpret geophysical surveys to locate and estimate quantities of recoverable groundwater reserves, the distribution and extent of salinity in agricultural areas or the extent of pollution in the ground or atmosphere.
- carry out geophysical surveys of areas prior to the construction of major engineering structures such as dams, bridges or roadworks in order to determine suitable construction parameters.
- make studies of the earth including the seismology of earthquakes and earthquake risk, time variations and the distribution of the earth's magnetic and gravity fields, geochronology using isotopic data,

palaeomagnetic studies, physics of rocks and minerals, fluid dynamics of magmas, oceans and atmosphere etc.

- develop instrumentation for measurement of physical parameters for use in surveys including gravity meters, magnetometers, electrical electromagnetic and radar transmitters and receivers, seismic recorders and radiometric systems.
- carry out research into new methods and instrumentation.
- develop mathematical models as an aid to the interpretation of geophysical survey results.

Some specialisations in geophysics are:

- seismic interpretation
- borehole geophysics
- processing geophysics
- seismic observing and instruments engineer
- mineral exploration
- engineering geophysics
- environmental or groundwater geophysics
- earthquake seismology
- palaeomagnetism
- geomagnetics
- geochronology

A company geophysicist is often part of a team of geoscientists, although there are some self employed geophysical consultants. A geophysicist will almost certainly have to perform field work at some time in his career and it is essential for him to have a good understanding of how his data is gathered. Considerable travel is involved, often to remote areas.

Personal requirements:

Those considering this career should possess an alert and analytical mind. A good understanding of physics and mathematics are essential along with some prior knowledge of geophysics and geology. Computing skills are now almost essential. A geophysicist must have a good command of english and be able to write reports and make presentations to management and co-workers. For work in the field, he must be in good health and have a practical approach to working in a hostile environment.



**BENEFITS OF
ASEG
CORPORATE
MEMBERSHIP**

**ACKNOWLEDGEMENT WITH AN
OFFICIAL ASEG PUBLICATION**

**PRIORITY ALLOCATION OF BOOTHS
AT CONFERENCES**

COPY OF ALL ASEG PUBLICATIONS

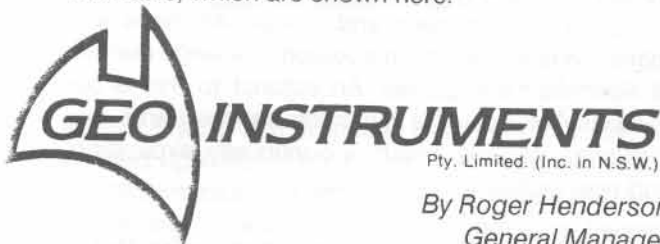
DISCOUNTED ADVERTISING RATES

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The Secretariat
7th floor
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PERTH WA 6000

CORPORATE MEMBERS

We continue to receive profiles of our corporate members, which are shown here.



By Roger Henderson
General Manager

Overview

Geo Instruments Pty. Limited is a leading representative in Australia for geophysical instruments sales, servicing and rentals. A number of companies are represented in order to provide as complete a range of different geophysical instruments as possible. These include airborne, land and marine types. (See complete list at the end). Geo Instruments Pty. Limited also provide helicopter geophysical services.

Senior staff are pre-eminent in their particular specialities and together encompass a vast store of experience.

Geo Instruments Pty. Limited serves not only Australia and New Zealand, but also Papua New Guinea, Indonesia, Malaysia, Thailand, Burma and the Philippines. For the marketing of SIROTEM, Geo Instruments have worldwide rights with agents in all major countries.

Company History

Geo Instruments Pty. Limited was formed in August 1986 through the purchase by its parent company, Kevron Aerial Surveys of the assets in Australia of Geometrics International Corporation (G.I.C.).

The key personnel in G.I.C. were retained by Geo Instruments Pty. Limited to provide a continuity of their experience through the activities of the new company.

Key Personnel

Roger Henderson M.Sc. General Manager and Marketing:

M.Sc. in geophysics and 25 years experience as active geophysicist with N.S.W. Geological Survey, Huntings, Barringer; lecturer at Macquarie University; marketing of geophysical instrumentation and services with Geometrics, 1982-86.

Tim Pippett B.App.Sc. Sales Manager :

B.App.Sc. in geology and physics and 14 years of active experience in geophysical consulting and contracting. He joined Geometrics in 1982. Since then, has been actively involved in the airborne survey business and the marketing of geophysical instrumentation.

Zoltan Beldi Manager Helicopter Geophysics Division:

Cert.Elect.Eng. with extensive experience in highly sophisticated electronics. Before joining Geometrics in 1978 he worked for NASA and the CSIRO. With Geometrics he was involved with the operation of airborne surveys as well as the maintenance and repair of all types of geophysical instrumentation.

Helicopter Geophysics:

Geo Instruments Pty Limited through its helicopter geophysics division operates airborne magnetics, radiometrics and by arrangement, electromagnetics throughout Australia and South East Asia. Zoltan Beldi runs this division with support from Roger Henderson.

Geo Instruments Representation

The following is a summary of the companies that Geo Instruments Pty. Ltd. represent in Australia, New Zealand and Papua New Guinea and where indicated (*) in Indonesia, Malaysia, Thailand and the Philippines.

o EG&G (*)	o EXPLORANIUM: (*)	o ALPHA
GEOMETRICS:		NUCLEAR:
o EG&G MARINE	o MINERAL CONTROL	o BRGM (*)
PRODUCTS:	INSTRUMENT: (*)	INSTRUMENTS
o EG&G OCEAN	o FISKARS (*)	o PHOENIX:
PRODUCTS:	GEOINSTRUMENTS:	
o EG&G MOUNT	o LA COSTE & (*)	o SENSORS &
SOPRIS: (*)	ROMBERG:	SOFTWARE:
o RMS	o INTERPEX (*)	o APPLIED
INSTRUMENTS		GEOMECHANICS
o ROMOR	o SODIN	o ADVANCE
	(GRAVITY)	GEOPHYSICAL

Geo Instruments have also been appointed distributors in Australia for NEC Computers.



Petroconsultants

Digimap (Geodata Services)

*By D.J.Kirkham
Managing Director*

Digimap Geodata Services was founded in 1980 as an affiliated company to Flower Doery Buchan and Robertson Research Australia to provide computer services to aid the interpretation and mapping being carried out by these two consultancy groups.

Very soon, the scope of the work expanded to include a bureau service, mainly to oil companies based in Sydney. The initial hardware (2 Computer Automation microcomputers) quickly became inadequate, and was replaced by a PDP-11/70 and a Geostar workstation. By 1984, a complete upgrade was carried out, adding a VAX 11/750 computer and Calcomp 1077 pen plotter. Outside work accounted for a large part of total revenues, although this was still mainly Sydney based. Our main services were section digitising, production of basemaps and posted maps, depth conversion, machine contouring and the generation of synthetic seismograms, using third party software modified by our own programming staff.

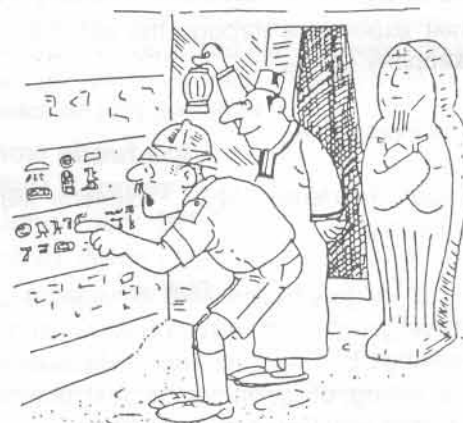
During 1986, two major changes in direction occurred which were to prove of immeasurable value as the slump in the petroleum industry continued to worsen, and which quickly made Digimap part of the international scene.

The first of these was related to the signing of a technical service agreement with P.T. Apliteh Biner Murni in Jakarta in 1985 to provide similar mapping services to Indonesian companies. We needed to provide new software in addition to upgrading our existing programs, and we decided to branch out into the areas of ray tracing and map migration, together with seismic inversion. In the courses of developing the IMPSEIS inversion package, we produced a colour plotting program, SEISTONE, which output to an inexpensive Tektronix 4696 ink-jet plotter, ideal for Jakarta. It was not long before our interstate revenues in the Sydney office began to grow as a result of colour plotting and inversion work, and soon we were performing inversion for overseas companies.

The second decision, which has had even more impact on the company, was triggered initially by the production of a database of all open file shotpoint location data in the Eromanga Basin, as the basis of mapping required for a non-exclusive report by FDB and RRA. We extended this idea to the Barrow Sub-basin, on the strength of interest from one company, and as demand increased, concentrated

on completing all the North West Shelf areas. Today, the database includes almost three quarters of a million line kilometres, and we have established ourselves as the leading supplier of digitised shotpoint location data and composite maps with many overseas clients in addition to a large number of Australian companies. An adjunct to this is our database of open file synthetic seismograms and digitised well logs which is continually expanding, and now includes over 300 wells.

The new format of the company proved attractive to Petroconsultants, S.A. of Geneva, a world leader in exploration database products. Late in 1987, negotiations began for Petroconsultants to acquire Digimap and FDB, to emerge on April 1, 1988 as Petroconsultants Digimap and Petroconsultants Australasia respectively. Our overseas markets are now stronger than ever, and in turn we are able to offer Australian companies a wide range of worldwide exploration database products, making us well placed to respond to the long-awaited upturn in activity.



"By Jove...this is written in COBOL!"



*By Barry E. Long
Managing Director*

Velseis Pty Ltd is a company formed from a split in the field operations of Velocity Data in August, 1988. The high resolution seismic reflection acquisition and processing is now handled exclusively by Velseis whilst the oil well site seismic and uphole operations are carried out by Velocity Data Pty Ltd.

When Velseis was formed, Barry Long was the sole shareholder but he has now reduced this to 40% with a policy for broadening and consolidating the technical expertise base of the company. Geoff Bell, previously a shareholder in South Eastern Exploration, and an extremely competent seismic field engineer now owns 20% of the company and brings with him a wealth of experience in electronic design. Brent Haines, well known within the ASEG, has purchased a 10% shareholding, and has integrated his consulting operations within the areas of shallow marine and engineering seismic into the company. Two other experienced field personnel, Tim Beale and John Coveny, have also purchased 10% of the company. A remaining 10% was purchased by Digilin Pty. Ltd., for the design of the electronic aspects of the Velseis acquisition system.

The company therefore offers a very experienced geophysical base in all aspects of seismic operations and has sufficient internal expertise to carry out significant research and development projects in both hardware and software. Current projects involve PC based systems for direct attachment to current conventional seismic hardware. These systems provide demultiplexed data, provide the observer with full geometry input at the time of shooting and create SEG-Y tapes of the fully geometry integrated data at the end of each day. A second project involves the design of an electronic rollalong switch which adapts to the previous hardware and allows full spread checking and instrument tests to be carried out automatically and fully recorded. The company has also recently finished a design of a refraction system based around the same PC which will ultimately enable full interpretation to be carried out in the field.

Velseis is the only Australian company to have ever developed its own seismic reflection data processing software and currently processes all its data from field operations. This development is the first part of the overall Velseis system to be online with the finalisation of the field acquisition side expected within the next year.

Velseis continues to be Australia's leading high resolution seismic contractor providing expertise both with Mini-SOSIE and dynamite energy sources. The company has carried out field surveys for coal exploration all over Australia and New Zealand and has also operated in both Indonesia and Thailand.

ASEG RESEARCH FOUNDATION

The following people have contributed to the ASEG Research Foundation.

Thank you for your support.

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

LETTER

Letter from Roger Henderson, General Manager of GEO Instruments.

"I was surprised to find that Volume 20, Nos. 1 & 2 of Exploration Geophysics (the Melbourne Conference issue) contained so many short, half page abstracts. It was my understanding that Exploration Geophysics was to contain only refereed papers or at least extended abstracts.

The production of this issue is especially embarrassing to me as I had been asked to represent the ASEG at a meeting of the SEG Editorial Committee last year, to convince them that all future papers would be refereed so that we would obtain full recognition of Exploration Geophysics by the SEG and have the contents included in their Cumulative Index. I believe the SEG will certainly not be convinced of this when they see this issue. In any case, regardless of the SEG's recognition, I feel that my own support for the quality of Exploration Geophysics, as a world class journal, and my promotion of it overseas, as I have done in the past, will be severely coloured by this publication. All overseas subscribers get is the Bulletin and they won't be impressed with such issues.

I feel this issue will lend support to the argument, which I am in favour of, that conference abstracts be a separate issue to numbers of the Bulletin, so that they won't detract from the high quality of the Bulletin. As you know, this is done by the SEG who issue separate conference abstracts publications to Geophysics.

At the very least I would have thought that all the abstracts would have been separated from the full papers, probably at the rear of the publication. I understand from the Editor that this was his belief as to what would happen in this case. Incidentally, can I also ask why there are so many blank pages? Indeed there are 39 in all which represents 11% of the total pages. Intriguingly, although these blank pages are not numbered, gaps are left in the numbering sequence, presumably to account for them. All very odd!

Finally, and I know this is not peculiar to this issue but, I would suggest that the numbering of the front and back pages occupied by advertising and other information, would be more distinct from the main pages if the numbers were not just like the other page numbers, but with the small letter 'a' after them. Roman numerals are often used for this purpose and another system which I consider to be at least better than the current system, is that adopted by Geophysics where a large capital 'A' precedes the number".

MEMBERSHIP

We welcome new members who have joined the Society:

MEMBER	CATEGORY	STATE
Robert Han	Student	WA
Bettina Townrow	Associate	WA

Unknown addresses

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

Lindsay Horn
last known address: CSR Petroleum
Brisbane

Dr Sampath
last known address: BMR
Canberra

Bernie French
last known address: Lilian Rd
Maida Vale WA

Lim Hock Beng

John Todd
last known address: Broadway
Denver Colorado
USA

Richard Smith
last known address: Wells St
Toronto Ontario
Canada

Brian Milner
last known address: Schnabel Engineering
Richmond Virginia
USA