

Geo-soundings

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DENVER CONFERENCE

We had an SEG booth for the first time at the 66th Annual Geophysical Conference in Denver, Colorado held in November. The booth was organised by Amanda Thompson and was a great success. The business card of Mr Mark Rutter of Mertz Inc. was drawn from a box of cards collected during the conference and he was the lucky winner of a didgeridoo.

The following posters and papers were presented at the Conference:

Ping Li, (1996), *A new solution for the electric potential in an arbitrarily anisotropic and inhomogeneous layered earth*: 66th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Abstracts, (Poster).

P.N. Okoye, N.F. Uren, and McDonald, J.A., (1996), *Dip-dependent anisotropic spatial resolution*: 66th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Abstracts, (Poster).

Ebrom, D.A., Markley, S.A., and McDonald, J.A., (1996), *Horizontal resolution before migration for broadband data*: 66th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Abstracts, 1430-1433.

Waluyo, McDonald, J.A., and Uren, N.F., (1996), *Anisotropic parameter determination in tilted symmetry axes transversely isotropic media: An approach through surface measurements*: 66th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Abstracts, 1511-1514.

Al-Mousa, O.F., Ebrom, D.A., McDonald, J.A., (1996), *A study of the Fresnel zone of converted waves (P-SV) using physical modeling*: 66th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Abstracts, 1349-1352.

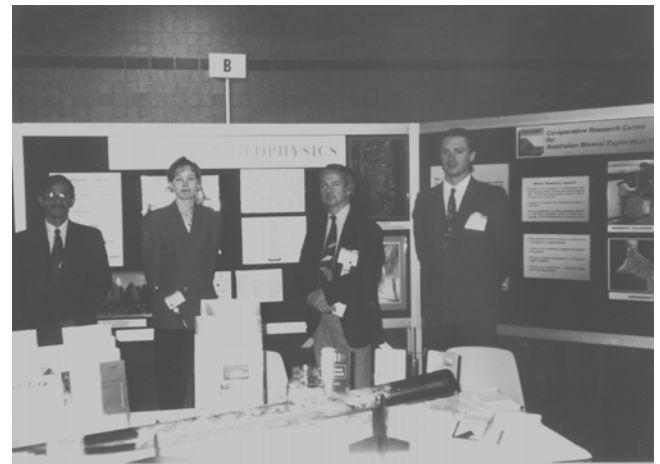
Markley, S.A., Ebrom, D.A., Sekharan, K.K., and McDonald J.A., (1996), *The effect of fold on horizontal resolution in a physical model experiment*: 66th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Abstracts, 36-38.

Zhao, P., and Uren, N.F. (1996), *New technique for Kirchhoff diffraction mapping using both first and later arrivals*: 66th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Abstracts, 527-530.

Evans, B.J., Cocker, J., and Urosevic, M., (1996), *Recording seismic reflections beneath high-velocity layers*: 66th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Abstracts, 194-197.

Xiuyuan Li, Daniel A. Ebrom, K.K. Sekharan, and John McDonald, (1996), *3-D prestack depth migration for subsalt salt imaging - a case with physical model*: 66th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Abstracts, 574-577.

M. Urosevic, and B.J. Evans, (1996), *The role of three-component surface seismic in long-wall mine planning*: 66th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Abstracts, 642-645.



Waluyo, Amanda Thompson, Paul Wilkes, Don Sherlock at the Curtin Geophysics booth in Denver, Colorado. The didgeridoo can be seen in the foreground.

OTHER NEW PUBLICATIONS

Okoye, P.N., Zhao, P., and Uren, N.F. (1996), *Inversion technique for recovering the elastic constants of transversely isotropic materials*: Geophysics, 60, 1247-1257

Zhang, M., Ebrom, D.A., McDonald, J.A., and Tatham, R.H., (1996), *Comparison of experimental velocity measurements with theoretical results in a solid-solid composite material*: Geophysics, 61, 1429-1435.

Ha, T.T., Zhou, H., Sheriff, R., and McDonald, J.A., (1996), *Fourier transform approximations for sweeps and phase-encoded sweeps*: Geophysics, 61, 1440-1452.

OTHER NEWS

The State Government has recently announced that petroleum and research staff from CSIRO will be re-locating to Perth. The new National centre will be in Technology Park, Bentley.

NEW BOOK BY CURTIN AUTHOR

Evans, B.J., (1996), *A Handbook for Seismic Data Acquisition in exploration* Pub. Soc. of Explor. Geophys., ISBN 1-56080-041-0, 278 p.
Catalog #760 SEG Members \$26 List \$31

CRCAMET NEWS

Paul Wilkes, Umesh Das and PhD students Brett Harris and Ghasem Kamkar Rouhani attended a three day CRCAMET workshop in early December at Blackheath in the Blue Mountains, NSW. This workshop was designed to review current progress towards CRCAMET goals, to identify areas for closer collaboration and to increase personal contacts within the CRC. The workshop was very positive as well as enjoyable and will lead to some positive changes within this CRC.

As part of the 1997 ASEG conference to be held 23-27 February in Sydney, CRCAMET will be holding two sessions on Wednesday 26th entitled "CRCAMET: The first four years" and "CRCAMET Research Workshop". CRCAMET is keen to publicise its work, past and future, and invites you to attend these sessions.

COMPUTING

The Department of Exploration Geophysics has, over the past six months, been working towards the installation of a new UNIX workstation laboratory. This has been necessary to meet the increased user load on the Department's computing resources, and to address the increased load expected with the changes to the undergraduate Geophysics course beginning in 1997.

The Department has taken delivery of 12 Silicon Graphics Indy workstations, ten of which will form a new student laboratory. The SUN 1000E will continue to be used as the Departmental compute server, except for the programs Intrepid and ERMMapper which will be run locally on the Silicon Graphics machines. In addition, one of the SG machines is a 24Bit R5000 Indy, which will enable full 24bit colour display of image processed data. This machine has been fitted with a 20 inch screen for demonstration purposes.

The changes to the undergraduate course will result in students obtaining better training in Signal Analysis, earlier exposure to Industry Standard software (in third year) and improved computer literacy skills. Students graduating from the revised undergraduate course will be familiar with PCs, Macintoshes, UNIX, FORTRAN, Email, the internet, and high level languages such as IDL, Matlab and Maple. Students will also obtain experience with commercial Geophysical software including Promax, ERMMapper, Intrepid, Geosoft plus others.

In addition, the Department is in the late stage of planning for the installation of a PC server system, to improve the reliability and reduce the management overhead of our rapidly expanding PC laboratory. This system should be up and running by the end of February 1997, and will permit students to boot any PC in the laboratory with DOS, Windows, Windows 95 or Windows NT, as required. It will

also provide improved data and software security, thereby improving the protection of software provided by donors to this Department.

FIELD TRIPS

During late November members of the coal seismic crew, led by Brian Evans, visited the Vermont Park region of the Northern Bowen basin, to record a 7km experimental seismic line. The line is part of the Coal Seam Gas project for BHP, and it is hoped that the line will provide enough information of structure and fracturing to allow BHP to drill an exploration well with a view to gas production. If the well is a success there is every probability that 3-component lines will be recorded across it to delineate fracture orientation. In the interim, the group is processing and interpreting the data.

COAL CONFERENCE and WORKSHOP

Brian Evans presented a paper at the "Geology in Longwall Mining" Symposium held at the University of NSW during 12/13 November. Following the Symposium Brian presented a one day course titled "Advanced Seismic Technology for Mining Geologists and Engineers" at the UNSW Key Centre for Mines.

PRIZE WINNERS AT ASEG

The following presentations were made to three of our students at the December meeting of the ASEG held at the Celtic Club:

BEST PRESENTATION: Chris Bishop

BEST TECHNICAL CONTENT: Paul Mutton

LEONARDO AWARD: Simon Kawagle

These awards were made as a consequence of Honours presentations at ASEG meetings in October. Our congratulations to both winners and non-winners.

ARC-Funded Exploration Geophysics "SUMMIT"

Chris Powell and Mike Dentith of UWA, and Norm Uren and John McDonald of Curtin, were organisers of a meeting to discuss the future of exploration geophysics in Australian universities. Some 26 people met in the resort town of Mandurah, south of Perth, and they produced a draft document which will be discussed at the ASEG meeting in Sydney on Wednesday, February 26, 1997. Norm Uren will be the Keynote Speaker at this important Symposium. Everyone with an opinion is invited to contribute.

STOP PRESS

The Australian Petroleum Cooperative Research Centre (APCRC) focuses on research and training in the upstream side of the petroleum industry. It is funded by the Australian Government and was established in 1991, with Curtin joining in 1993. The partners are CSIRO Division of Petroleum Resources, Curtin University Exploration Geophysics and Petroleum and Environmental Geochemistry, the National Centre for Petroleum Geology and Geophysics based at the University of Adelaide and the Centre for Petroleum Engineering at the University of NSW. The APCRC grant has been renewed by the Australian Government for another seven years. The sum of \$2.5 million per year will be shared by the participants with the requirement that further finance be provided by industry for research and training.