

# NEWSLETTER GEOBRASIL

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## GEOLOGY SOCIETY SA: BOREHOLE SURVEYING 2004

The Directorate of Professional Programmes of the Geological Society of South Africa.

PRESENTS

BOREHOLE SURVEYING 2004

A 2-DAY CONFERENCE, TRADE SHOW & HALF-DAY FIELD TRIP

16th 17th 18th September 2004

CONFERENCE CONVENOR

Dr. John Orpen

Venue (in Johannesburg) to be announced

FIRST CIRCULAR

(Download RESPONSE FORM [www.pharmalogica.co.za/geology.htm](http://www.pharmalogica.co.za/geology.htm))

ABOUT THE CONFERENCE

The conference will examine the problems of spatially coordinating sub-surface data derived from drilling. Borehole survey techniques, the methods used to calculate the borehole path and then construct 3D models of the ground will be reviewed and evaluated. This will provide a forum for all concerned professionals to interact with solution providers - borehole survey contractors, instrument manufacturers, software developers, etc. - with the objective of developing and publishing a consensus for "best practice" in this key activity of recording and plotting subsurface data.

A practical field exercise is planned to run concurrently with the conference. An artificial borehole will be established using a continuous PVC pipe that will be securely pinned down a steep slope and accurately surveyed using land survey techniques. This "borehole" will then be repeatedly surveyed using a selection of magnetic, optical and gyroscopic tools, which data will then be plotted using a variety of mining software and the results compared with the known borehole path. A half-day site visit for all delegates to inspect the "borehole" will be arranged.

The conference will include the following topics:

- \* Overview
- \* The challenge of borehole surveying and 3D modeling
- \* Designing and managing a drilling operation to ensure the effective logging and spatial integrity and coordination of all data elements
- \* Presentations:
  - \* Borehole survey tool manufacturers
  - \* Mining software developers
- \* Case studies:
  - \* Ore deposit modeling
  - \* Geotechnical modeling
- \* Others
  - \* Discussions
  - \* Recommended standards to be set
  - \* Competent person profile
  - \* Verification - Hankafile data
  - \* The way forward

Suggestions for further topics, as well as offers of contributions - particularly with respect to case studies, are welcome. Further details will then be incorporated in the second circular.

ABOUT THE TRADE SHOW

It is intended that as full a spectrum as possible of borehole survey tools, downhole geophysical instruments, core orientation and logging devices will be displayed and demonstrated, along with data processing software leading to the development of 3D models of the ground.

CONFERENCE CONVENOR

Dr. John Lisle Orpen

John graduated in 1978 with a D.Phil in geology from the then University of Rhodesia, which he subsequently joined as a lecturer in 1980 and then became Chairman of the Geology Department at the University of Zimbabwe in 1987.

In 1990 he was appointed Director of the Geological Survey of Zimbabwe, which post he resigned in 1993 to take up a position with the Vrije Universiteit Amsterdam, employed on a Dutch aid initiative aimed at establishing an MSc Mineral Exploration degree in Zimbabwe.

In 1997 John established Culverhood Mining (Pvt.) Ltd. in partnership with Colin Rice and Graham Martin. This company provided consultancy, drilling equipment and a borehole survey service, including downhole geophysics. In 2003 he took up his current position as MD Resource Exploration & Development (Pty.) Ltd., in partnership with Steve Auret and Bob Foster.

Through his experiences, John has become acutely aware of the frustrations involved in accurately measuring and portraying drilling data and the need to engage other disciplines in the area of 3D modelling. These interests led to the present conference as a first step towards resolving these issues.

#### WHO SHOULD ATTEND

The conference is aimed at practicing professionals involved in mineral and oil and gas exploration, project evaluation and development, mining, as well as civil and geotechnical works investigations.

The conference will be of interest to geologists, mining engineers, mine surveyors and evaluators, civil engineers, engineering geologists, geotechnicians and all professionals whose work entails the evaluation of sub surface data derived from drilling.

#### RESPONSE

The GSSA will try to accommodate all interested persons and requests that the attached response form ([www.pharmalogica.co.za/geology.htm](http://www.pharmalogica.co.za/geology.htm)) be completed and returned as soon as possible, preferably before 30th April 2004.

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([www.pharmalogica.co.za](http://www.pharmalogica.co.za) <<http://www.pharmalogica.co.za/> )

#### • NATURE

A 'snowball Earth' climate triggered by continental break-up through changes in runoff 303  
YANNICK DONNADIEU, YVES GODDÉRIS, GILLES RAMSTEIN, ANNE NÉDÉLEC & JOSEPH MEERT  
doi: 10.1038/nature02408

#### • SCIENCE

Halomonas neptunia sp. nov., Halomonas sulfidaeris sp. nov., Halomonas axialensis sp. nov. and Halomonas hydrothermalis sp. nov.: halophilic bacteria isolated from deep-sea hydrothermal-vent environments

Jonathan Z. Kaye, M. Carmen Marquez, Antonio Ventosa, and John A. Baross

IJSEM 1 March 2004; 54(2): p. 499-511

<http://ijs.sgmjournals.org/cgi/content/abstract/54/2/499?ct>

Arsenicococcus bolidensis gen. nov., sp. nov., a novel actinomycete isolated from contaminated lake sediment

Matthew D. Collins, Joyanto Routh, Ambujom Saraswathy, Paul A. Lawson, Peter Schumann, Christina Welinder-Olsson, and Enevold Falsen

IJSEM 1 March 2004; 54(2): p. 605-608

<http://ijs.sgmjournals.org/cgi/content/abstract/54/2/605?ct>

Bacillus shackletonii sp. nov., from volcanic soil on Candlemas Island, South Sandwich archipelago  
Niall A. Logan, Liesbeth Lebbe, An Verhelst, Johan Goris, Gillian Forsyth, Marina Rodriguez-Diaz, Marc Heyndrickx, and Paul De Vos

IJSEM 1 March 2004; 54(2): p. 373-376

<http://ijs.sgmjournals.org/cgi/content/abstract/54/2/373?ct>

Molecular phylogeny of the heterocystous cyanobacteria (subsections IV and V) based on nifD

Brian J. Henson, Sharon M. Hesselbrock, Linda E. Watson, and Susan R. Barnum

IJSEM 1 March 2004; 54(2): p. 493-497

<http://ijs.sgmjournals.org/cgi/content/abstract/54/2/493?ct>

D Fortin

Geochemistry. What biogenic minerals tell us.

Science 12 Mar 2004 303(5664): p. 1618.

<http://highwire.stanford.edu/cgi/medline/pmid;15016984>

DJ Bottomley, LH Chan, A Katz, A Starinsky, and ID Clark  
Lithium isotope geochemistry and origin of Canadian shield brines.  
Ground Water 1 Nov 2003 41(6): p. 847.

<http://highwire.stanford.edu/cgi/medline/pmid;14649868>

NP Nikolaidis, GM Dobbs, J Chen, and JA Lackovic  
Arsenic mobility in contaminated lake sediments.  
Environ Pollut 1 Jan 2004 129(3): p. 479.

<http://highwire.stanford.edu/cgi/medline/pmid;15016468>

O Geffard, E His, H Budzinski, JF Chiffolleau, A Coynel, and H Etcheber  
Effects of storage method and duration on the toxicity of marine sediments to embryos of  
Crassostrea gigas oysters.  
Environ Pollut 1 Jan 2004 129(3): p. 457.

<http://highwire.stanford.edu/cgi/medline/pmid;15016466>

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***The people interested in receiving our newsletter through mail, can write to [acfonseca@geobrasil.net](mailto:acfonseca@geobrasil.net) or [revistadegeologia@yahoo.com.br](mailto:revistadegeologia@yahoo.com.br)***

***\*\*\*Le persone interessate in ricevere la nostra newsletter tramite e-mail, posso scrivere ad [acfonseca@geobrasil.net](mailto:acfonseca@geobrasil.net) ou [revistadegeologia@yahoo.com.br](mailto:revistadegeologia@yahoo.com.br).***