

PROFESSIONAL DEVELOPMENT TRAINING COURSES

1-day Professional Development Courses – Johannesburg May 2009

Introduction to Geostatistics

Practical Variography

Successful Sampling

QA QC of Assay Data

Reporting Resources & Reserves

Training course:	Date:
INTRODUCTION TO GEOSTATISTICS	4 May 2009
PRACTICAL VARIOGRAPHY	5 May 2009
SUCCESSFUL SAMPLING	6 May 2009
QA QC OF ASSAY DATA	7 May 2009
REPORTING RESOURCES & RESERVES	8 May 2009

Course Content: INTRODUCTION TO GEOSTATISTICS

This one-day course unravels the mystery of the concepts and applications of geostatistics in mining. This course is designed for managers, miners and engineers as well as geologists needing a refresher in the concepts and techniques used in resource estimation.

The course includes:

- Overview of where geostatistics fits into mining
- Importance of assumptions, data integrity and geology
- Tools for statistical data analysis
- What is variography?
- Methods of estimation – inverse distance and kriging
- Introduction to conditional simulation

Course Content: PRACTICAL VARIOGRAPHY

This one-day course provides practical and relevant advice for preparing and analysing variograms.

Participants will:

- Improve their analytical skill for variography
- Increase awareness of variograms pit-falls
- Pick up tips, hints and case studies for a relevant and practical reference

The course covers the following topics:

Applications and issues
 Preparing for variography
 Calculating variograms
 Interpreting for directions of continuity
 Interpreting 'interesting' variograms
 Modelling variograms
 Relevance of variograms for Inverse Distance methods
 Practical application of variograms for kriging and conditional simulation

Course Content: SUCCESSFUL SAMPLING

This one-day course provides a hands-on guide to designing and running effective sampling programs. Every aspect is thoroughly explained with case studies and practical exercises.

Participants will:

- Learn how to critically assess and design sampling and sample preparation systems
- Understand the importance of good sampling practice and the cost of poor sampling
- Gain an awareness of sources of potential sampling error
- Understand and apply Gy's sampling theory to sample size selection and the design of sampling protocols
- Learn correct sampling practice and sources of potential sampling error

Course Content: QA QC OF ASSAY DATA

This one-day course tackles the issue of best practice and presents a set of practical guidelines for ensuring highest data quality.

Participants will:

- Learn how to achieve best practice in data quality
- Understand the principles of QA QC
- Gain an overview of drilling and assaying technology
- Understand basic statistical theory
- Learn how to design QA QC programmes
- Learn reviewing of assaying techniques
- Be given a statistics refresher and fundamentals of quality management statistics
- Managing assay laboratories
- Designing and developing QA QC systems

This course is designed for: resource and exploration geologists, laboratory and metallurgical personnel and anyone associated with project evaluation.

Course Content: REPORTING RESOURCES & RESERVES

How to achieve best practice in public reporting

This one-day course shows you how to produce competent and responsible reports for the public. It includes a thorough examination of the relevant reporting code, as well as practical tools and techniques for classification.

You will:

- Learn how to interpret and apply the relevant code for your area of operation
- Gain an understanding of the responsibilities and authority of the Competent or Qualified Person
- Be able to put the code into practice and produce reports and press releases with confidence
- Assessment and public reporting criteria
- Classification - practical tools and techniques

This course is for those involved in the process of classifying and reporting of resources & reserves.

Laptops for practical exercises

PLEASE NOTE: Attendees are please to bring their own laptops for courses.
(Laptops not needed for the Reporting course)

Delegate feedback

Snowden prides itself on the standard of its courses and on the quality of its presenters. Feedback from our previous course participants includes the following:

Introduction to Geostatistics

"A well organised and presented course. Lots to take in!"

"The course gave me a good understanding of problems to look out for and put concepts into perspective"

"The most valuable part of the course was being able to understand what kriging is and how it works"

"Being able to work with your own data was the best part of the course"

Practical Variography

"The best parts were the practical examples and the explanations of real data and how the issues were identified and overcome"

"There were numerous tips"

"Good mix of theory and practical, well prepared and knowledgeable instructor"

"It was very interesting to deal with real data (our own) to demonstrate practical variography"

Successful Sampling

"I liked the activities throughout to reinforce concepts and ideas"

"The sample nomograms were really interesting and applicable"

"The hands-on practical exercise was the most valuable as it put things into perspective"

"The best part was finding out there is more to sampling than putting dirt in bags"

QAQC of Assay Data

"The excel spreadsheets were awesome!!"

"It was a reminder that parts of our companies QAQC procedures could be improved"

"A good exposure to the wide variety of QAQC available to be used and what impact it has"

"Gave insight into the operations of the lab from sample preparation and how to audit the labs"

Reporting Resources and Reserves

"The most valuable part of the course was the open discussion of aspects of the code and the limits of its application"

"It was good going over actual public reports of resources and reserves"

"The entire course was very informative and prepared delegates well for work in the area"

"The course was well structured giving adequate time to put learned theory into practice"

Presenters

The course presenters will be chosen from Snowden's most experienced consultants.

Mark Burnett - Divisional Manager Resources - Johannesburg Office

BSc (Hons) from the University of the Witwatersrand Post Grad Dip. in Terrain Evaluation (University of the North West)



Mark has 17 years experience in Witwatersrand mine geology and resource estimation. Mark has particular experience in geological modelling, resource estimation, mine planning, technical reviews, due diligences and grade control. Prior to joining Snowden, Mark was the New Business Manager (Technical) for Harmony Gold Mine Ltd. In this role Mark reviewed potential acquisition targets, both locally and internationally. Since joining Snowden Mark has worked on a number of projects, including exploration projects, gold, uranium, coal and base metals. Mark presents Snowden technical training courses.

Mark Roux - Senior Resource Geologist

BSc (Hons) Geology, University of Pretoria, MGSSA



Mark has 7 years experience in various roles within the diamond industry from grass roots exploration to early stage evaluation of potential kimberlitic bodies; this involved working in a number of African ventures in Botswana, South Africa, Gabon and the Democratic Republic of the Congo fulfilling tasks ranging from raw sampling to project management and due diligence reporting roles. Following his exploration experience Mark moved into a new role as a resource extension geologist at Finsch Mine in the Northern Cape, where his tasks involved planning and executing underground drill projects, QAQC of logged core, interpretative logging and Gemcom modelling of the Block5 extension of the Finsch kimberlite pipe. Mark is currently completing his GDE with focus on Mineral Resource Evaluation. Mark's

fields of expertise lie in exploration, diamond geology, data validation, GIS and ore body modelling.



Fees

Each course costs R4,500 incl VAT per person.

This fee includes comprehensive course manuals, refreshments and lunch.

Special Discount Offer: 10% discount for attendance of all 5 courses: R20,250 including VAT per person.

Please note that there is an extra 5% discount for payments made by credit card

Mentoring

Learn while working on your own data.

Snowden provides one-on-one technical mentoring to help develop your knowledge, skills and experience. Take advantage of Snowden's 21 year knowledge and skills base to help:

- build your competence
- fast-track your technical knowledge
- assess your current capabilities
- set your professional development goals
- increase your confidence

On-site customised courses

All our courses can be customised to suit your specific training requirements and presented either on-site or at a venue of your choice. Please contact Diana Titren, Training Manager, on +61 8 9211 8670 or training@snowdengroup.com for further information.

Contact and registration

For more information on Snowden's Training and Mentoring programmes, please contact Diana Titren, Training Division Manager, on +61 8 9211 8670 or training@snowdengroup.com

To register, please complete the following form and fax it to Shannon Aitken, Training Coordinator, on +61 8 9322 2576

Please visit www.snowdengroup.com for more information about our training courses

Snowden Office Contact Details

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FIVE 1-DAY PROFESSIONAL DEVELOPMENT COURSES

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* Total including VAT, less 5% discount if paying by credit card _____

PLEASE NOTE: Attendees are to bring their own laptops for the practical exercises. Laptops not needed for the Reporting course.

Payment required at time of registration - payment confirms your registration.

A tax invoice will be issued on receipt of payment.

☐ **Cheque** Please enclose a cheque made payable to Snowden Mining Industry Consultants

☐ Electronic transfer

Please quote your EFT number

Please quote the course name on your EFT transaction.

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PLEASE NOTE: No refunds for cancellations made within 2 weeks of the seminar or for 'no shows'. Delegates can be substituted.

PLEASE NOTE: No refunds for cancellations made within 2 weeks of the seminar or for "no shows". Delegates can be substituted. If the minimum number of delegates is not achieved, delegates will be notified 1 week prior to seminar start date and fees will be refunded.