Quantitative Group
Our Skills On *Your* Team

Geometallurgical Modelling Workshop

Two Day Professional Development Workshop

Objectives of the Course

Everyone is talking about Geometallurgy. Maximising orebody value requires that models contain more than just tonnes and grade. In depth understanding and the ability to plan using variables such as mineability, metallurgical recovery, throughput and cost are fundamental to maximising value in both tactical and strategic frameworks. Creating spatial models of these types of variables is generally not straightforward – in fact, standard approaches used for grade modelling may lead to wildly incorrect results, poor decision making and potentially project failure.

This successful two day interactive workshop for mining industry professionals commences by defining geometallurgy and its role in the mine planning/value cycle. The workshop then steps through the critical issues from sampling and data sufficiency to the requirement to use different geostatistical approaches to those usually employed for grades. The vital issue of how to use geometallurgical models to drive mine planning is also explored. The program involves several exercises and case studies. The business context and the importance of geometallurgy as a basis for making improved decisions is emphasised throughout the course.

Who Should Attend?

This program is suitable for mining engineers, geologists and metallurgists who are currently involved in building and using geometallurgical models as well as those contemplating or planning such approaches on their project. Managers who are responsible for this area who want to get to grips with the tools and techniques that are evolving in this important new field will also benefit greatly

Program

Day 1	**Context, Sampling, Spatial Variability Issues**
	Introduction & Framework
	Value and Geometallurgy
	Statistical and Geostatistical Primer
	Sampling for Geometallurgy
	Scale, Size and Additivity
Day 2	**Estimation and Beyond**
	Primary vs. Response Variables
	Kriging – What can (and cannot) be Kriged?
	Building geomet Models
	Getting Value: Mine Planning Considerations
	Wrap Up and Discussion

A full set of PowerPoint slides will be provided to each participant. Additional reference materials will also be provided electronically.

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AusIMM
AUSTRALASIAN INSTITUTE OF MINING & METALLURGY

Course Leaders: John Vann, Scott Dunham & Steve Coward



John Vann is a geologist and geostatistician with over 20 years experience of base metal, coal, nickel, iron, gold, bauxite, manganese and copper projects. John has taught over 150 short courses and seminars on resource estimation, geostatistics, sampling and risk topics since 1993 in Australia, the USA, Canada, Chile, South Africa, UK, Indonesia, Zimbabwe, Laos and PNG. He has been working on geometallurgical projects for copper and iron. He is a Director of QG and holds degrees in geology from RMIT and the University of New England and geostatistics from the University of Leeds. John is Adjunct Professor of Geology at UWA, Adjunct Senior Lecturer in Geostatistics at the University of Adelaide and was a member of the JORC Committee for 11 years.

Scott Dunham is a technical mining manager with degrees in geology and information technology. He has over 20 years experience in a variety of commodities including copper, nickel, gold, tin, silver-lead-zinc. Scott has specific expertise in managing geology, mine planning, scheduling and geotechnical professionals in operational and project development environments and is a past Technical Services Manager for Newcrest, WMC Resources and RGC/Goldfields. Scott joined QG as a director in 2006 and has lead training on management, reconciliation and geometallurgical modelling for a variety of clients including BHP Billiton and Rio Tinto. Scott has recently been working on geometallurgical issues in industrial and research environments for copper, nickel and iron ore.

Steve Coward joined QG in 2008 as a Principal Consultant with responsibility for the area of geometallurgy. Steve's 20 year career in the mining industry has included mining operations, project management and corporate support in operational, managerial and technical roles. He developed a range of skills associated with management of mineral resources and reserves with particular focus on sampling, estimation, classification and mining project evaluation. In addition to qualifications in metallurgy, Steve has a B.Comm. from the University of South Africa and an MBA from the University of Wittwatersrand. He is currently completing a PhD on geometallurgy at the University of Adelaide.

Participant Feedback

Participants are invited to provide feedback and rate the performance for every QG course.
We use a 1 (poor) to 5 (excellent) rating system to evaluate the quality, relevance and clarity of our programs.

QG's first public Geometallurgical Modelling Workshop (held September 2008) received an overall rating of 4.3. Some of the participant feedback includes:

"Very important to get across idea of value basis for decision making… majority of audience are here for the science… they need to know how to pitch their request for $/resources."

"Great presentation skills & knowledge base across all presenters. Practical exercises and application."

"Very good overview of the geostatistical considerations of geometallurgy."

"Lots of ah ha moments in there. Too many to describe."

"Practical exercises helped to explain the concepts very well."

"Useful discussion on flipcharts"

Further enquiries: info@qgroup.net.au and see also www.qgroup.net.au