



Quantitative Group
Our Skills On *Your* Team

CV GRANT NICHOLAS

Last updated November 2009

Quantitative Group (QG) provide geostatistical, geological and resource estimation consulting services to the mining and resource sectors. QG are specialists in mining geostatistics with a strong focus on geological context and mine geology/engineering applications. QG also has additional strengths in enabling the links to be made through the value chain (sampling, geological modelling, resource estimation, mining geology, reconciliation, geometallurgy, financial risk).

PERSONAL DETAILS

Name: Grant Deon Nicholas
Date of birth: 26th February 1973
Citizenship: South African
Residency: Australia

CAREER SUMMARY

Grant Nicholas has a background in economic geology, computer science, risk analysis and finance since 1995. He accepted a scholarship from Anglo American and graduated with a B.Sc. Honours Cum Laude from the University of Stellenbosch, South Africa in 1995 finishing top of his class.

Grant started his career as a production geologist on the diamond fields of the West Coast of Southern Africa in 1995 working for De Beers. He was responsible for several re-estimation exercises and the implementation of new evaluation methodologies that extended the life of mine by several years. During this period, he also completed a management diploma (DPMM) through Maccauvlei and the University of South Africa and passed with a distinction and top class honours.

In 2000 he was invited to join the De Beers corporate headquarters (CHQ) as technical assistant to the Group Manager Mineral Resources. Grant's main duties were to assimilate and reconcile the group's diamond resource and reserve statements for inclusion into all public reports and 'in-house' technical reports for the executive committee.

He also formed part of the company's Strategic GrowthTeam reporting to the technical director to evaluate the group's potential to replenish diamond reserves and meet forecasted market demand.

During this period, Grant was a member of a small team that wrote the Technical Financial Report (TFR) that enabled the privatization of De Beers from the Johannesburg Securities Exchange (JSE) in 2001. The deal was valued at over US\$17 billion. The deal was recognized by South African-based DealMakers magazine as the 'Deal of the Year'.

In 2003 Grant was selected to join the De Beers Mineral Resource Management R&D group in Wells, UK to lead the resource risk management project. The aim of this research area was to evaluate the financial impacts of resource and reserve related risks in NPV terms. He established an expert panel with international specialists in the areas of risk management, geostatistics, finance and real option valuation.

The R&D group was tasked with reducing the time taken (and overall costs) for developing a mineral project from discovery to an operating mine. Grant was also involved in several evaluation audits, working with UK and South African-based banks and management consultancies to value projects and compile reports for the sale of selected De Beers' mineral assets to third parties.

He is currently completing a part-time Ph.D. through the University of Adelaide, Australia in the areas of geostatistics, risk modelling and financial evaluation with Prof. Peter Dowd as his main supervisor.



Grant Nicholas
Principal Consultant



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QUALIFICATIONS

B.Sc. (Geology & Computer Science) – University of the Western Cape, South Africa. Graduated with a B.Sc. in geology and joint computer science degree in 1994.

B.Sc. (Hons) – University of Stellenbosch, Cape Town, South Africa. Awarded Cum Laude with top class honours in geology in 1995. Thesis on a sedimentological study of diamond-bearing gravels at an alluvial mine.

DPMM (Management Diploma) – Technikon of the Witwatersrand, South Africa and Maccauwei. Awarded a distinction with top class honours in 1999.

Ph.D. (Mining Evaluation) - Currently completing part-time Ph.D. at the University of Adelaide, SA, Australia. Studies commenced in 2004 in the areas of geostatistics, risk analysis and financial evaluation. Thesis on developing an integrated evaluation model for mineral deposits.

PROFESSIONAL AFFILIATIONS

Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM).

Member of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM).

Member of the Society for Mining, Metallurgy and Exploration, U.S.A (SME).

WORK HISTORY

2008 - Present

Principal Consultant - Quantitative Group Perth WA

Grant is responsible for the area of Risk Modelling and Financial Evaluation at QG. He has a pragmatic approach to business that is underpinned by his geological and mining background and analytical experience in spatial and classical statistics, risk analysis, finance and real options.

He has more than a decade of experience in the area of Mineral Resource Management, which provides him with

an in-depth understanding of the system linkages and correlations between different stages of the evaluation pipeline. He is especially proficient at quantifying and communicating the impacts of technical resource and reserve risks into straightforward financial metrics for the purposes of decision-making for senior management and/or executive committees.

Since joining QG, Grant has been involved mainly in evaluating the risks within gold and copper projects for some of the top mining companies in the world. He has also provided guidance to nickel and iron ore companies with respect to risk management. One of his key undertakings in the last 18 months focused on evaluating risks in business plans and expressing those uncertainties in financial terms to senior executive management.

This experience places him in a distinctive position to be able to offer the following services on behalf of QG:

>> Training: Grant has delivered public and in-house training courses in Australia, South Africa, the UK and the USA. Courses cover a range of topics from Risk Modelling to Financial Evaluations and are suitable for technical, financial and senior management;

>> Audit/ Project Due Diligence: Audit and evaluation for due diligence integrating both technical and financial aspects. This service can be tailored for banks or finance houses; major mining houses (to augment in-house capabilities); small to medium mining companies who may require a full risk assessment service; and as part of project teams managed by engineering or business consultancies;

>> Consulting: generation of resource/reserve estimates and simulations; quantification of their risks on business plans; and cash flow and economic risk assessments;

>> IPOs and M&As: an extensive range of services are available from initial strategic involvement to compiling business models and conducting appropriate audits; and

>> R&D project management: Grant has researched and managed R&D projects in the areas of financial analysis and risk for mining companies. He can manage or coordinate project research either in a company setting or collaborations between industry and universities to ensure that business goals are met on time and within budget.

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2003-2008

**Risk Analyst/ Group Geologist Research
De Beers, Wells UK**

This position formed part of a select team who were tasked with developing faster and more cost efficient ways of estimating and evaluating diamond projects to take them from exploration targets to operating mines. The team developed prototype evaluation models that set the best-practice standard for the company.

Grant was responsible for researching, developing and managing all aspects of the Resource Risk Management project. The project's main objective was to evaluate the financial impact of technical risks at any stage of project valuation. It also strived to correctly capture the technical resource and reserve risks in the cash flow model to assist decision-making. Risk mitigation strategies were developed and evaluated using real option valuation techniques.

It was his responsibility to effectively establish and manage an expert technical panel to assist him comprising some of the leading scientific academics, practitioners and consultants in the world. This list included specialists from the UK, France, Belgium, the USA, Canada and Australia in the areas of risk management, geostatistics, finance and real option valuation.

2001 – 2002

**Technical Assistant to the Group Manager
De Beers CHQ Johannesburg, RSA.**

Grant worked as Technical Assistant to the Group Manager Mineral Resources whose responsibility it was to develop the mineral resource management strategy and best practice technical principles for the whole group. He also assisted this manager in his position as overall competent person for the management and reporting of the De Beers' resources.

His main responsibility was supporting efforts in reporting and managing resource estimation and classification duties for all the De Beers' operating mines and new projects. He was also a member of the strategic growth team reporting to the technical director of operations. During this period, Grant was responsible for the compilation of all the company's resource and reserve statements in the annual reports and reconciliation with

the strategic business plans. This formed an integral part of the Technical Financial Report (TFR) in 2001 when De Beers delisted from the Johannesburg Securities Exchange (JSE). The deal was valued at over US\$17 billion.

1995 – 2000

**Senior Geologist
De Beers Namaqualand Mines, RSA.**

Grant's main duties included providing mining production services and managing the contiguous exploration activities for several alluvial and fluvial operating mines.

He was responsible for the design of sampling campaigns to meet strict budget and time requirements and the evaluation and operational management of several exploration programmes both contiguous to the mining area ('brownfield') and new 'greenfield' sites.

During his stay at Namaqualand Mines, he worked on several of the operating mines in the area and managed the daily production geology requirements to ensure that they met their respective production targets.

PUBLICATIONS

Nicholas, G., Coward, S. and Ferreira, J., 2008. *Financial Risk Assessment Using Conditional Simulations in an Integrated Evaluation Model – The Eighth International Geostatistics Congress in Santiago, Chile.*

Nicholas, G., Coward, S., Rendall, M. and Thurston, M., 2007. *Decision-Making Using an Integrated Evaluation Model Versus Sensitivity Analysis and Monte Carlo Simulation.* CIM International Conference, Montreal, Canadian Institute of Mining Metallurgy and Petroleum.

Nicholas, G., Coward, S., Armstrong, A. and Galli, A., 2006. *Integrated Mine Evaluation- Implications for Mine Management.* International Mine Management Conference, (The Australasian Institute of Mining and Metallurgy: Melbourne).

Kleingeld, W.J. and **Nicholas, G., 2004.** *Diamond Resources and Reserves – Technical Uncertainties affecting their Estimation, Classification and Evaluation.* Orebody Modelling and Strategic Mine Planning Conference, (The Australasian Institute of Mining and Metallurgy: Perth).