Quantitative Group
Our Skills On *Your* Team

CV CHRIS DE-VITRY

Last updated April 2010

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:	Chris De-Vitry
Date of Birth:	1st January 1970
Citizenship:	Australian

CAREER SUMMARY

Chris has strong skills in mine geology, structural geology, data-validation, geological modeling and in integrating geology and geostatistics into resource models. He also has advanced skills in numerous mining software packages especially Isatis for which he is a long time user.

Chris skills have been developed through extensive mentoring by world class geologists, geostatisticians and educators. He has experience in gold, copper, uranium, iron-ore, nickel, lead-zinc, coal and talc.

In 1992 Chris completed a BSc in Geology at the Australian National University and was subsequently employed by WMC Resources as a junior geologist at the Redeemer underground gold mine and the Cox open pit near Leinster W.A. In 1994 Chris returned to study and completed his honours in geology at the University of Western Australia and in 1995 Chris returned to WMC Resources as an underground mine geologist at the Rocky's Reward underground nickel mine near Leinster.

From 1997 to 2000 Chris worked for WMC resources as a resource geologist in Melbourne, Canada, Cuba and Perth. From 2000 to 2001 Chris worked at the Three Springs open pit Talc Mine as a senior mine geologist. Chris then worked as a resource geologist then senior resource geologist with BHPBilliton at Newman. In 2004 Chris joined MPI Mines as a mine geologist and subsequently as Senior Resource Geologist at the historic Stawell gold mine in Victoria. In January 2006 Chris joined Quantitative Group as a principal consultant and since then has been involved in major technical projects and audit for some of the world's major mining companies.

Chris has completed a research masters degree in geostatistics, sponsored by QG, under the supervision of Prof. Peter Dowd at the University of Adelaide. Chris studied various methods for the simulation of correlated variables.

QUALIFICATIONS

B.Sc. (Geology) - Australian National University, 1992.

B.Sc. (Hons) - Honours in Geology sponsored by WMC resources. University of Western Australia, 1994. Thesis "Genesis of the high temperature, sulphur depleted Redeemer-Main gold deposit, Agnew-Lawlers region, Western Australia".

M.Sc. (Ore Deposit Geology and Evaluation) - By thesis and coursework, University of Western Australia, 1999. Thesis "Controls on the distribution of arsenic in the Rocky's Reward nickel deposit, Leinster W.A." As part of this M.Sc chris participated in lectures and fieldwork for structural geology (11 days) and ore deposit geology (32 days).

M.Sc. (Geostatistics) - By thesis, 2010. Thesis - "Simulation of Correlated Variables - A Comparison of Approaches with a Case Study from the Yandi Channel Iron Deposit".

Chris De-Vitry
Principal Consultant

Quantitative Geoscience Pty Ltd (ABN 30 095 494 947) and Quantitative Group Pty Ltd (ABN 61 120 267 192), trading as QG
address : Unit 5, 259 Leitchs Rd, Brendale, Queensland (PO Box 5615 Brendale BC, Queensland, 4500)
phone : +61 (0) 7 3889 9715 | fax : +61 (0) 7 3889 9247 | email : info@qgroup.net.au | web : www.qgroup.net.au

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PROFESSIONAL AFFILIATIONS

Australian Institute of Geoscientists (AIG) Member and certified practicing geologist.

WORK HISTORY

January 2005 - Present
Principal Consultant - Quantitative Group

Chris is a principal consultant with Quantitative Group and has provided resource estimates and geostatistical studies for numerous commodities (Fe, Au, Cu, Ag, Pb, Zn, U and Coal) and styles of deposit. In addition he has been involved in several major corporate audits for large multi-national mining houses. Chris has developed specialist skills in non-linear multivariate estimation and multivariate direct block simulation within the QG group and is also their specialist in Iron Ore. During the period 2006-2009 Chris has completed a research masters degree in geostatistics, sponsored by QG, under the supervision of Prof. Peter Dowd at the University of Adelaide. Finally, Chris has been involved in hands-on training and mentoring of many resource geologists.

February 2004 - December 2005
Senior Resource Geologist - Stawell Gold Mine

Initially Chris worked as a mine geologist then senior resource geologist at the Stawell underground gold mine. Chris was involved in all mine geology duties as well as resource evaluation for numerous underground ore shoots and potential open pits. Chris valued this opportunity to work on all stages of a project including drillhole design, logging, interpretation, resource modelling, mapping, sludging, interpretation of geology, review of stope designs and the monitoring of stope performance. A very fast turnover between drilling and mining gave Chris an ideal opportunity to review and improve his resource models.

September 2001 - January 2004
Senior Resource Geologist - BHPBillton Newman

Chris was initially employed as a resource geologist and later senior resource geologist with BHPBilliton based at Newman. Chris completed numerous geological interpretations and resource estimates for a variety of deposits in the Pilbara region of Western Australia. This work also involved detailed QA/QC of geological, sampling, assaying and geophysical information. Chris developed an interest in Operational Excellence (6 Sigma) and he was a member of the Operational Excellence team at Newman involved in the unification and simplification of reconciliation for various mine sites. Chris also developed an automated approach to allow blast hole data to improve resource estimates.

April 2000 - September 2001
Senior Mine Geologist - WMC, Geraldton WA

Chris worked as a senior mine geologist for WMC Resources at the Three Springs open pit talc mine near Geraldton W.A. Chris worked on all facets of open pit geology including regional and near mine exploration. Chris completed a detailed review of sampling and QA/QC. This included calibration and application of Gy's formula to solve many practical sampling issues and improve the ability for talc shipments to remain within quality specifications. Chris was also travelled to Europe to review ore sorting technology.

September 1997 - March 2000
Resource Geologist - WMC Resources

Chris was employed by WMC Resources as a Resource geologist with Group Projects in Melbourne, Canada, Cuba and Perth working on resource evaluation, resource audits and training for a porphyry copper/high sulphidation system in the Philippines, nickel laterite in Cuba, narrow vein gold in Canada and Uzbekistan.

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November 1994 - August 1997
Mine Geologist - WMC Resources, Leinster WA

Chris was a Mine geologist with WMC Resources at the Rocky's Reward underground nickel mine near Leinster in W.A. Chris worked on all facets of mine geology including geological interpretation and resource modeling. Through Chris's detailed structural mapping and analysis he was able to significantly improve the structural understanding of the area and the resulting resource models.

February 1993 - January 1994
Geological Assistant - WMC Resources, WA

Geological assistant (Junior Geologist) with WMC Resources at the Redeemer underground gold mine and the Cox open pit (near Leinster W.A.). Mapping, logging core and percussion chips. Chris was also a member of the mines rescue team for 12 months.

December 1992 - February 1993

Employed by the ACT Government (Centre for Australian Regolith Studies) for Soil type mapping.

August 1990 - February 1991 and
November 1991 - March 1992

Self employed Underground opal miner near Lightning Ridge N.S.W.

January - July 1989
Geotechnician - MIM, Mt Isa

Geotechnician with MIM at the Hilton North Copper-lead-zinc project near Mt Isa. Supervising drill rigs, logging, cutting and sampling diamond drill core and logging percussion chips.

PUBLICATIONS

De-Vitry C., Vann, J. and Arvidson, H., 2007. *A Guide to Selecting the Optimal Method of Resource Estimation for Multivariate Iron Ore Deposits*, in: Iron Ore 2007, 20-22 August, 2007, Perth Australia: pp 67-77, (The Australian Institute of Mining and Metallurgy: Melbourne).

De-Vitry C, 2005. *Utilising Statistics and Geostatistics to Validate, Characterise and Improve Geological Domaining*: A Case study from BHP Billiton's Yandi Channel Iron Deposit, in Iron Ore 2005, 19-21 September 2005, Perth, Australia, (The Australian Institute of Mining and Metallurgy: Melbourne).

De-Vitry C, 2005. *Alternatives to Conditional Simulation for the Estimation of Iron Grade Distributions*: A Case Study From BHP Billiton's Mt Whaleback Operations, in Iron Ore 2005, 19-21 September 2005, Perth, Australia, (The Australian Institute of Mining and Metallurgy: Melbourne).

De-Vitry C, 2002. *Resource Classification: A Case Study From the Joffre Hosted Iron Ore of BHP Billiton's Mt Whaleback Operations, in Iron Ore 2002*, 9-11 September 2002, Perth, Australia, pp 127-136, (The Australian Institute of Mining and Metallurgy: Melbourne).

De-Vitry C, 2002. *A Geologists Guide to Destroying Shareholder Value and a Business Improvement Model to Insure Against it, in AUSIMM Value Tracking Symposium*, Brisbane Qld, 7-8 October 2002, pp 109-113, (The Australian Institute of Mining and Metallurgy: Melbourne).

De-Vitry C, Libby J W and Langworthy , P J, 1998. *Rocky's Reward Nickel Deposit, in Geology of Australian and Papua New Guinean Mineral Deposits* (Eds: D A Berkman and D H Mackenzie), The Australian Institute of Mining and Metallurgy: Melbourne.

Broome, et al, 1998. *Agnew Gold Deposits, in Geology of Australian and Papua New Guinean Mineral Deposits*, (Eds: D A Berkman and D H Mackenzie), pp 315-320 (The Australian Institute of Mining and Metallurgy: Melbourne).

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