



Quantitative Group
Our Skills On *Your* Team

CV SCOTT DUNHAM

Last updated February 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, metallurgy, financial risk).

PERSONAL DETAILS

Name: Scott Dunham
Date of Birth: 25 April 1965
Citizenship: Australian

CAREER SUMMARY

After graduating with an honours degree in geology from the University of Queensland, Scott Dunham started his mining career as an underground mine geologist in 1987 with MIM Holdings Ltd at the Mt Isa Lead Mine. His experience in geology, reconciliation, mine planning, mining studies and technical management was gained through extensive exposure in both operating mines and through consulting.

In 1989 Scott joined Renison Goldfields Consolidated (RGC) at the Renison Bell tin mine in Tasmania. He subsequently worked for RGC and its affiliate Goldfields Limited until 1998 holding positions ranging from Mine Geologist, Senior Geologist and Geology and Technical Services Manager at Renison Bell and the Henty Gold mine.

After overseeing the establishment of the geology, survey and long term planning system at the Henty Gold mine during its development and construction phase, Scott joined AMC Consultants in 1998. Whilst with AMC, his consulting assignments covered a wide spectrum including resource modelling, feasibility study geology programs, operating reviews and audits and valuation of both operating and exploration assets for prospectuses and public reports.

In early 2001, Scott was appointed Geology Manager for WMC Resources' Lenister Nickel Operations where he was responsible for all site geological activities including near mine exploration, mine geology and grade control, resource estimation and feasibility study geological investigations. Scott was given the responsibility of Relief General Manager covering the shift requirements of the Fly-in Fly-out roster.

In 2002 Scott completed a Graduate Diploma in Information Technology from the University of New England.

Following an internal transfer in 2003, Scott moved to the Mt Keith Nickel Operation as Planning and Development Manager. In this role he was responsible for managing all site mine planning, geology and geotechnical activities from short-range and operational requirements through to feasibility study management and life-of-asset planning.

In 2004, Scott joined Newcrest as Manager Technical Services for the Ridgeway and Cadia Hill copper-gold mines at Cadia Valley Operations. Scott and his team were responsible for developing and monitoring technical standards for mine planning, geotechnical engineering and geology across Cadia Valley. Additionally Scott's team was responsible for resource development, long-term planning and strategic business development. Scott was involved in concept, pre-feasibility and definitive feasibility studies for a range of projects. As one of Newcrest's major operations, Scott and his team also acted as corporate-wide technical support for other Newcrest operations including Telfer, Gosowong and Cracow.

In mid-2006, Scott returned to consulting, joining QG as a Director and Principal Consultant where he is heavily involved in resource and reserve audits, reviews and due diligence as well as reconciliation and grade control.

Scott's career spans a wide range of commodities (including gold, PGE, silver-lead-zinc, coal, bauxite, nickel, tin, iron-ore, copper, copper-gold) mining activities from highly selective to bulk mining (including



Scott Dunham
Principal Consultant
Director



Quantitative Group
Our Skills On *Your* Team

CV SCOTT DUNHAM

Last updated February 2009

conventional open pits, strip mining, sub-level caving, block caving, narrow-vein mining, open stoping) and countries with projects in North America, Papua New Guinea, Malaysia, Africa and Australia.

Scott has more than 10 years experience managing technical mining professionals and teams ranging from one or two through to large multi-discipline groups of direct employees, consultants and contractors. His operational and management experience ensures Scott brings a strong business focus and understanding to his consulting activities.

In addition to his expertise in mine geology, management and auditing, Scott has developed a reputation for delivery of high quality training and professional mentoring. Scott conducts training in reconciliation, geometallurgical modelling and planning and management for technical professionals. He has acted as a professional mentor for geologists and engineers providing coaching, leadership and career advice.

Scott is a Member of the AusIMM and has practical experience with the JORC Code and NI 43-101 resource and reserve classification and reporting systems.

QUALIFICATIONS

Bachelor of Science with Honours (Geology)
University of Queensland

Graduate Diploma in Information Technology
University of New England

PROFESSIONAL AFFILIATIONS

Australasian Institute of Mining and Metallurgy (AusIMM) Member.



Quantitative Group
Our Skills On *Your* Team

CV SCOTT DUNHAM

Last updated February 2009

WORK HISTORY

August 2006 - Present

Director and Principal Consultant – Quantitative Group (QG). Brisbane QLD

In his current role, Scott is a managing partner in QG and provides consulting services on all aspects of the resource and reserve value stream. His broad knowledge of the business of mining coupled with excellent strategic thinking skills make him ideally suited to corporate and operational projects ranging from organisational design through to project valuation as well as grade control, reconciliation, resource/reserve audits, due diligence, feasibility study management, financial modelling and business improvement opportunity identification and delivery.

Scott runs a range of in-house and public training including:

- >> Management for Technical Professionals;
- >> Geometallurgical Modelling and Planning;
- >> Strategic Planning and Orebody Knowledge;
- >> Grade Control and Reconciliation;
- >> Communication and Report Writing; and
- >> Value from Resource/Reserve Audits and the JORC Code.

Scott has been involved in audit and due diligence for many projects ranging from small mines through to world class operations owned by the world's leading mining companies. His audit experience includes both JORC and NI 43-101 on deposits in Australia, Papua New Guinea, Malaysia, and North America for many commodities ranging from selective to bulk mining techniques (both underground and open pit)

The range of expertise provided includes:

- >> Geology, mine planning and geotechnical engineering management;
- >> Open pit and underground grade control and reconciliation – mine geology;
- >> Resource/Reserve audits and due diligence;
- >> Mining study management from concept to bankable feasibility;
- >> Strategic and long term mine planning;
- >> Financial modelling and deposit evaluation;
- >> Business improvement and business process design and implementation; and
- >> Mentoring, team development and coaching.



Quantitative Group
Our Skills On *Your* Team

CV SCOTT DUNHAM

Last updated February 2009

May 2004 - July 2006

Manager Technical Services – Newcrest Mining Limited Cadia Valley Operations

(Cadia Hill open pit 80Mtpa total material mined. 17Mtpa ore treatment)

(Ridgeway underground sub-level cave 5.6Mtpa ore treatment)

Technical management and oversight for Cadia Valley Technical Services Department with between 20 and 30 direct reports in the disciplines of mine planning, exploration geology, mine geology and geotechnical engineering. The Technical Services department was responsible for all long-term and strategic planning for Cadia Valley and provided corporate technical support for Telfer, Gosowong and Cracow. The direct responsibilities of the department included:

- >> Safety performance improvement;
- >> Resource development activities;
- >> Resource/Reserve estimation and reporting;
- >> Life-of-mine planning for open pit and underground operations;
- >> Quality assurance and auditing medium and short term planning functions;
- >> Development of strategic business improvement opportunities;
- >> Corporate Development;
- >> Ridgeway Deeps project;
- >> Cadia East open pit and panel cave projects;
- >> Internal and external research projects including AMIRA representation; and
- >> Province development planning

October 2003 to May 2004

Planning and Development Manager – WMC Resources Mt Keith Operations

(Open Pit 75Mtpa total material mined. 11Mtpa ore treatment)

Management of a team of 25 multi-discipline professionals including geologists, mine planning and geotechnical engineers providing operational support for short, medium and long term activities including:

- >> Strategic planning and resource development;
- >> Mining feasibility studies;
- >> Operational production scheduling (mining and concentrator) within down-stream customer constraints;
- >> Open pit mine planning and design – short, medium and long term;
- >> Geotechnical engineering and operational support;
- >> Resource/Reserve estimation and reporting;
- >> Grade control, reconciliation and mine geology;
- >> Near mine exploration; and
- >> Mining technology studies.



Quantitative Group
Our Skills On *Your* Team

CV SCOTT DUNHAM

Last updated February 2009

From January 2001 to September 2003

Geology Manager – WMC Resources Leinster Nickel Operations

(Open Pit 20Mtpa total material mined. 0.6Mtpa ore treatment)

(Underground 1.8Mtpa ore treatment)

Development and management of geology function covering production geology, resource/reserve estimation, exploration and geotechnical engineering. Between 25 and 30 direct reports including geologists and geotechnical engineers. Key responsibilities included:

>> Development of integrated exploration and resource development program to extend operational life and improve financial results;

>> Management of drilling, resource estimation and project planning programs for feasibility studies;

>> Sub-level caving optimisation and draw control strategy;

>> Management of grade control activities (open pit and underground);

>> Implementation of systematic improvement program for geological function including dilution control, draw marker trials, OBO grade control, exploration unit cost reduction, planning/geology interface;

>> Co-Team Leader LNO Business Improvement Program focusing on RONA, Unit costs and non-financial areas;

>> Site sponsor of ABEF Category 3 – Data, information and knowledge; and

>> Site sponsor for Slope Stability, Underground Ground Control, Remote Areas and Surface Mobile Equipment major hazard standards (WMC safety standards).

September 1998 - January 2001

Senior Resource Geologist, Australian Mining Consultants

Development of AMC Resource geology business. Customer liaison, marketing and contact management.

Geological consulting activities including:

>> Feasibility study geology and financial modelling for platinum-palladium, zinc-lead-silver, copper, gold and magnesium open pit and underground projects;

>> Independent expert valuation of mineral assets for Part B Statements, Information Memoranda, Prospectuses and other public reports;

>> Management and operational reviews/audits for underground and open pit mines, including site management, resources/reserves, geological systems and grade control;

>> Exploration and development project scoping studies;

>> Cost/benefit analysis of exploration scenarios and consideration of strategic implications;

>> Review of geotechnical aspects of mine design with respect to operational efficiency;

>> Liaison with mining personnel for conversion of Resources to Reserves; and

>> Management and supervision of Perth office information systems.



Quantitative Group
Our Skills On *Your* Team

CV SCOTT DUNHAM

Last updated February 2009

October 1994 - September 1998

Manager Geology and Technical Services, Goldfields (Tasmania) Limited, Henty Gold Mine, Tas

(Underground high-grade gold operation 0.1Mtpa ore treatment producing 100Koz per year)

Management of all aspects of geology, geotechnical engineering, survey, scheduling, long-term planning and resource development.

Scott joined the Henty gold mine during the operation's construction phase and was responsible for establishing all of the technical systems, processes and procedures required for the geology and long term planning functions. As well as resource and reserve estimation he was responsible for production supervision (during commissioning), business improvement activities, preparation of the operation's annual budget and forecasts and capital expenditure justifications for new mining projects and equipment.

During his time at Henty, Scott and his team successfully increased the mineral resource by 500,000 ounces with the discovery and delineation of four new zones of mineralisation.

June 1989 - October 1994

Geologist, Ore Reserve Geologist, Senior Geologist, Rension Limited, Renison Tin Mine, Tas

(Underground tin operation. 1.2Mtpa ore treatment)

Shortly after joining RGC at Renison Bell, and in addition to his routine geological duties of core logging, grade control and production geology, Scott was given the task of establishing the site's computer geology and planning systems using Datamine. This involved hardware acquisition and installation and the development of a macro-driven resource modelling process.

Scott gained skills in systems development, training other professionals and was responsible for integrating the geology, survey and planning databases.

January 1987 - June 1989

Geologist to Senior Geologist Mt Isa Mines Limited, Mt Isa, QLD

(Underground Ag-Pb-Zn 4.5Mtpa and Cu 6.0Mtpa operations)

Scott started his career as an underground mine geologist at Mt Isa. He worked in both the silver-lead-zinc and in the copper streams. His role included mapping, underground grade control, geological interpretation, proposing drilling programs and resource estimation.

PUBLICATIONS

Dunham, S. and Vann, J., 2007. *Geometallurgy, geostatistics and project value – does your block model tell you what you need to know?* In: Project Evaluation Conference, Melbourne, Victoria, 19-20 June, 2007: pp. 189-196. The Australasian Institute of Mining and Metallurgy: Melbourne.

Callaghan, T., **Dunham, S.** and Edgar, W., 1998. *Henty gold deposit*, In: Geology of Australian and Papua New Guinean Mineral Deposits Monograph 22: pp 473-481. The Australasian Institute of Mining and Metallurgy: Melbourne.

Bertoli, O., Job, M., Vann, J., and **Dunham, S.**, 2003. *Two-dimensional geostatistical methods – theory, practice and a case study from the IA Shoot Nickel Deposit*, Leinster, Western Australia, In: 5th International Mining Geology Conference, Bendigo, Victoria 17-19 November, 2003: pp. 189-196. The Australian Institute of Mining and Metallurgy: Melbourne.