

# CSA Global

Resource Industry Consultants

## Resources & Mining Geology



We are a geological, mining and management consulting company providing strategic mining services and advice to companies in the international mining industry. We have over 25 years international experience in most mineral commodities, with offices located in Perth, Jakarta, London, Darwin and Brisbane. The diversity of our services provides successful solutions for client needs and ensures an innovative and integrated approach to all our projects.



### Resources & Mining Geology

CSA Global's Resources and Mining Geology division comprise a balanced mix of experienced operational personnel and experts in the fields of QA/QC, geostatistics, resource modelling and mine design. We take a "hands on" approach to assessing our client's projects to ensure that mineral resources and ore reserves are based on a thorough geological understanding and current industry best practices.

CSA Global are experts at profiling the risks and profitability in ore reserve estimates. Our understanding of mining techniques and mineral economics has been cultivated from many years experience servicing the mining community. CSA Global's optimum mine designs and plans are based on sound geological knowledge and leading edge engineering techniques.

CSA Global have extensive experience in the evaluation, development and mining of a wide variety of mineral deposits and we understand how important it is to get it right the first time.

### Our Services

- Review of data collection techniques
- QA/QC audits
- Statistical analysis and variography
- Grade estimation and validation
- Resource reporting and classification
- JORC and NI 43-101 compliance reporting
- Operating and capital cost estimates
- Reserve reporting and classification
- Mine and operations design
- Analysis of infrastructure requirements
- Risk analysis





### Review Data Collection Techniques

- Planning
- Integration
- Design & Implementation
- State Of The Art Software

### QA / QC Audits

- Visualisation
- Geostatistics
- Pattern Analysis
- Buffer and Risk Analysis

### Statistical Analysis & Variography

- Data Compliancy & Reporting
- Data Migrations
- Storage & Handling
- Design & Implementation
- Data Capture & Transformations

### Grade Estimation & Validation

- Reporting
- Variography
- kriging
- KNA

### Resource Reporting & Classification

- Ongoing Support
- Customised Onsite Training

### JORC & NI 43-101 Compliance Reporting

- Document Control
- Statutory Reporting
- Data Management Procedures
- Technology Advice

### Recent Experience

#### Resource Estimation

- Western Australia Gold, iron ore, lead, uranium
- Vietnam Chromite, nickel sulphide
- Indonesia Coal, zinc/lead, copper, gold, nickel laterite
- Peru Copper
- Spain Tungsten
- Burkina Faso Aluminium
- Ghana Gold
- Sweden Copper/iron ore
- Kyrgyzstan Gold
- China Gold
- Saudi Arabia Copper

#### Resource Estimation

- Western Australia Underground Gold  
Underground Nickel  
Open pit Gold
- Queensland Mt Isa Copper, lead, zinc

## About CSA Global

We are a leading geological, mining and management consulting company with 25 years experience in the international mining industry.

We cover all stages of the exploration and mining cycle:

**Exploration & Evaluation**

**Data Management & Mapping**

**Resources & Mine Geology**

**Mining & Projects**

**Community Development & Sustainability**

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