Mining requires effective systems to maximise profitability and capitalise on business performance. The Mine Value Team helps achieve revenue and profitability improvements through collaborative change to the mining process.

CSA Global’s Mine Value Team seamlessly integrates expertise in geology and mining. Our mining geologists with specialist knowledge in many deposit styles and commodities work side by side with mining engineers who have extensive open pit and underground operational experience.

The Mine Value Team undertakes mine planning studies, develops grade control processes, implements reconciliation systems and advises on all aspects of mine production. We review geological modelling, estimate Mineral Resources and Reserves, investigate reconciliation issues, audit all aspects of mining studies and help implement change by direct engagement with the operation. We provide input to all study stages from Scoping (Preliminary Economic Assessment) to Feasibility and we assist with strategic planning and operations management.

Our focus is on providing benefits to the operation by ensuring that mining is based on a sound geological understanding and Production is directly related back to Predictions.

The Mine Value Team:

- Supports companies to produce geological models and incorporate geology into grade control modelling.
- Optimises drill spacing to achieve the best trade-off between costs and risk.
- Enhances grade control systems for optimal recovery.
- Works closely with the mining team to understand and minimise dilution through good blasting and digging practices.
- Produces robust Resource models.
- Reviews cut-off grade strategies to ensure stockpiles meet milling requirements and budgets.
- Produces optimised open pit and underground mine designs.
- Develops Life Of Mine (LOM) strategies.
- Assists companies to plan and schedule material movements correctly.
- Focuses on fit-for-purpose mineable Ore Reserves to ensure effective mining and reconciliation.
- Provides advice to delineate ore and waste accurately.
- Produces training to define ore blocks using geology and the grade control model.
- Presents onsite training workshops to mining operational teams on dilution and the effects of mining waste material on profitability.
- Engages with senior management to implement proven practices and adopt innovation.

### Recent Projects

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>PROJECT</th>
<th>COMMODITY</th>
<th>WORK COMPLETED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Golden Eagle (open pit)</td>
<td>Gold</td>
<td>Mining geology and reconciliation review.</td>
</tr>
<tr>
<td></td>
<td>Wallaby (open pit)</td>
<td>Gold</td>
<td>Open pit development and implementation of Short Interval Control production management system.</td>
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<tr>
<td>Bulgaria</td>
<td>Chelopech (underground)</td>
<td>Copper</td>
<td>Resource and Reserve audits; technical services support; facilitated change management process; mining geology; reconciliation.</td>
</tr>
<tr>
<td>China</td>
<td>Caijaying (underground)</td>
<td>Zinc, gold</td>
<td>Project management for building of mine on greenfield site; re-interpretation of geological controls; ongoing technical site support; database back-up systems; mine management support.</td>
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<tr>
<td>Philippines</td>
<td>Masbate (open pit)</td>
<td>Gold</td>
<td>Grade control Gap Analysis; fatal flaw review at project start up.</td>
</tr>
<tr>
<td>Portugal</td>
<td>Neves Corvo (underground)</td>
<td>Copper</td>
<td>Grade control and reconciliation review; refinement of grade control modelling techniques.</td>
</tr>
<tr>
<td>Tanzania</td>
<td>Golden Pride (open pit)</td>
<td>Gold</td>
<td>Exploration, grade control and mining Gap Analysis; Dilution Management Workshops.</td>
</tr>
<tr>
<td>Thailand</td>
<td>Chatree (open pit)</td>
<td>Gold</td>
<td>Dilution Management Workshops for pit technicians; operator training.</td>
</tr>
<tr>
<td>Uruguay</td>
<td>San Gregorio (open pit)</td>
<td>Gold</td>
<td>Implemented new sampling procedures; blast movement strategies.</td>
</tr>
<tr>
<td>Zambia</td>
<td>Kansanshi (underground)</td>
<td>Copper, gold</td>
<td>Mining geology review; provided on-going training and mentoring.</td>
</tr>
</tbody>
</table>
Our depth of knowledge enables us to tailor solutions to suit our clients’ needs by providing support across all fields of expertise. We believe that the key to achieving positive outcomes are to understand our client’s goals and collaborate effectively with our client’s team, integrating our expert knowledge and developing practical solutions that add value to the project.

We have worked with all sizes of companies from small businesses to international majors, as well as with governments and NGO’s. We make it our business to get to know and understand the region’s cultural diversity, political background, sovereign risk, workforce and technical capability.

About CSA Global
We are a leading geological, mining and management consulting company with 30 years experience in the international mining industry. We cover all stages of the exploration and mining cycle, all mineral commodities, all extraction methods, across all regions:

EXPLORATION
• Mineral systems targeting & project generation
• Remote sensing & geophysics
• Geochemistry (traditional & non-destructive methods)
• Mapping & field investigations
• Drill program planning & supervision
• Exploration strategy & project management

MINING
• Mining & engineering studies (concept to feasibility)
• Reserve assessment reviews
• Mine optimisation, scheduling & design
• Ore Reserve estimation & reporting
• Grade control & reconciliation
• Productivity improvement & project management

RESOURCES
• Review of data collection techniques & QAQC of data
• Geological & geo-metallurgical modelling
• Geostatistical analysis & variography
• Mineral Resource estimation, validation & classification
• Resource reporting in accordance with international codes
• Resource audits & risk analysis

DATA
• Sourcing, capture, validation & QAQC of data
• Database design, setup, management & hosting
• Cartography, GIS & web-mapping
• Production databases & management tools
• Online information management systems (Spring portals & data rooms)
• IT support, systems administration & training

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Horsham • Moscow • Vancouver

Scan QR Code for the Capability Statements section of our website

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