Cadia East
Ensuring at least another
30 years mining at
Cadia Valley.

Dean Collett
Principal Geologist
RW Subsidence

Cadia Extended

Cadia Hill

Cadia-East Ore body

Plant
## Resource Statement

<table>
<thead>
<tr>
<th></th>
<th>Measured Resources</th>
<th>Indicated Resources</th>
<th>Inferred Resources</th>
<th>Gold In Situ Moz</th>
<th>Copper In Situ (kt)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tonnes (Million)</td>
<td>Tonnes (Million)</td>
<td>Gold Grade (g/t Au)</td>
<td>Copper Grade (%Cu)</td>
<td>Gold Grade (g/t Au)</td>
</tr>
<tr>
<td>Cadia East</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open Pit</td>
<td>-</td>
<td>220</td>
<td>0.38</td>
<td>0.37</td>
<td>210</td>
</tr>
<tr>
<td>UG</td>
<td>-</td>
<td>300</td>
<td>0.92</td>
<td>0.35</td>
<td>390</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>-</td>
<td><strong>520</strong></td>
<td><strong>0.69</strong></td>
<td><strong>0.36</strong></td>
<td><strong>600</strong></td>
</tr>
</tbody>
</table>

1100 million tonnes containing 22 Moz gold, 3.6 Mt Cu, 120 kt Mo
Cadia East Underground Project

Australia’s largest underground mine and first application of Panel Caving mining

- Potentially >16Mtpa mining rate
- 2 x 350m lift’s
- Multiple caving fronts
Cadia Valley - Geological Interpretation
(Long Section Looking North)
Cadia East paragenesis – in brief.

**Early porphyry alteration** - roughly concentric zonation alteration system comprising lower and upper potassic zones, inner and outer propylitic, magnetite and pyrite shell. Upper disseminated chalcopyrite is related to a potassic phase (tourmaline).

**Overprinting sodic – potassic + silica alteration** – barren

**Main gold mineralisation event** associated with steeply dipping quartz veining.

The main sulphide mineral species are chalcopyrite, pyrite, bornite and molybdenite.

**Late faults** – pyrite faults

**Post mineral sedimentary cover** – shales and sandstones - Waugoola formation

**Major fault event** - moderate dipping carbonate thrust duplex.
Cadia East Alteration
(Schematic Cross Section Looking West)
CEUG DEVELOPMENT
Cave Mining Skills are in the Hand of a Few ……

- **Sublevel Caving**
- **Block Caving**
- **Panel Caving**

![Map with mining locations](image)
Cadia East Underground Context

Cadia East UG
Some Technical Mining Considerations ....

- Simultaneous Open Pit - UG Mining Crown Pillar Failure
- Rock Mass Characterization
- Mining Induced Seismicity
- Subsidence
- Cave Propagation
- High In-Situ Stress Field
- Abutment Stress Zone
- β
- α
- BH
- LF
- Depth 1000 m
- Block 1
- Block 2
- Lift 1
- Lift 2
- σ₃
- σ₁
- Some Technical Mining Considerations ....
Summary
• Large low grade
• Deep, vertically extensive
• Panel cave – risk profile
• Geology models of lithology, alteration, mineralisation, and structure enable exploration of system, geotechnics, mine design, geometallurgy.

Current feasibility design is for the 5th largest UG mine in world, biggest in Australia by a factor of 3.