PORPHYRY DEPOSITS

INCA MINERALS LTD
What are porphyry deposits?

- **Large mineralised systems**: between 3 and 8km’s across and equal km’s deep
- **Ore bodies**
  - **Large tonnage**: >500Mt
  - **Low grade**: <1g/t gold, <1% Cu
  - Super-sized open pits

± 65% of world’s copper supply comes from porphyry mines and increasingly important supply of gold
What do porphyries look like? Essentially metal-bearing volcanoes

Classic Porphyry model (after Sinclair)
There are numerous generic models that show the same internal structure of a porphyry:

- **VOLCANO**
- **CHIMNEYS**
- **TEMPERATURE**
- **ORE ZONE**
- **FURNACE**
Models are hypothetical
What do porphyry deposits look like in reality?

Yanacocha
Peru
Epithermal gold deposit related to a porphyry with mineralised chimneys

Contains 50Moz Gold
Rio Blanco – Los Bronces
Chile
Massive mineralised chimneys
Cu-tourmaline bearing HBx

5,000Mt @ 1% Cu

Rio Blanco-Los Bronces, La Americana, Cerro Negro area
16,000Mt @ 0.56% Cu
What about value?

**Cerro Casale**
Northern Chile

23Moz Au, 58Moz Ag
5.8Mlb Cu

Barrick bought 25% of the project in 2010 pre-final drill-out for $474M
Recognising the potential?

The “discovery hole” **Rio Grande Argentina**: 86m @ 0.66g/t Au, 3.8g/t Ag

Only two holes at **Cerro Casale** lead to the discovery

First pass drilling at Chanape: >100m @ 1.3g/t Au, 24g/t Ag, 0.2% Cu
What about Chanape?

Where is Chanape located in a regional sense?

Located in one of the richest mineral belts in the world “The Andes”

- A resource value many times greater than the Hamersley Iron Province
- >500Mt of fine Copper in 63 porphyry deposits
- Attracts 15% of the world’s exploration commitment
Chanape

What’s indicated at the surface?

- Chimney Zone - >50 breccias in a 2km x 1km area
- Coincident SP
- Widespread propylitic alteration
- Porphyry intrusions
- Epithermal Au-Ag mineralisation
Deep magnetic “highs” corresponding to magnetite in propylitic alteration or massive skarn mineralisation

- Potassic alteration
- Sub-epithermal Au-Cu-[Ag] mineralisation
Chanape mineralisation?

Outstanding intersections in *first pass* drilling

Only one HBx of +50 breccias adequately tested by drilling
(sulphides include: pyrite, chalcopyrite, bornite, enargite)

<table>
<thead>
<tr>
<th>from</th>
<th>to</th>
<th>interval</th>
<th>Au g/t</th>
<th>Ag g/t</th>
<th>Cu %</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH02</td>
<td>0 m</td>
<td>100 m</td>
<td>100 m</td>
<td>1.19</td>
<td>16.12</td>
</tr>
<tr>
<td>CH03</td>
<td>0 m</td>
<td>101 m</td>
<td>101 m</td>
<td>1.23</td>
<td>35.87</td>
</tr>
<tr>
<td>CH04</td>
<td>0 m</td>
<td>116 m</td>
<td>116 m</td>
<td>1.43</td>
<td>24.59</td>
</tr>
</tbody>
</table>

Average for three holes:

1.29 24.16 0.17

2.06g/t Au eq over 100m’s

*** Latest news: Breccia 10 with 200m of gold ***
Understanding the hydrothermal breccia pipes is key to understanding a porphyry deposit.

Chanape’s gold-silver-copper-tourmaline breccia pipes 8 & 10 are classic hydrothermal Bx pipes like the Sillitoe model – like the mineralised Bx pipes at Yanacocha and Rio Blanco-Los Bronces.
The Model

The Results

The Future?