Central Gawler Gold Province

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PIRSA

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Central Gawler Gold Province

- **Location**
- **Is it real?**
- **The collaborative project…**

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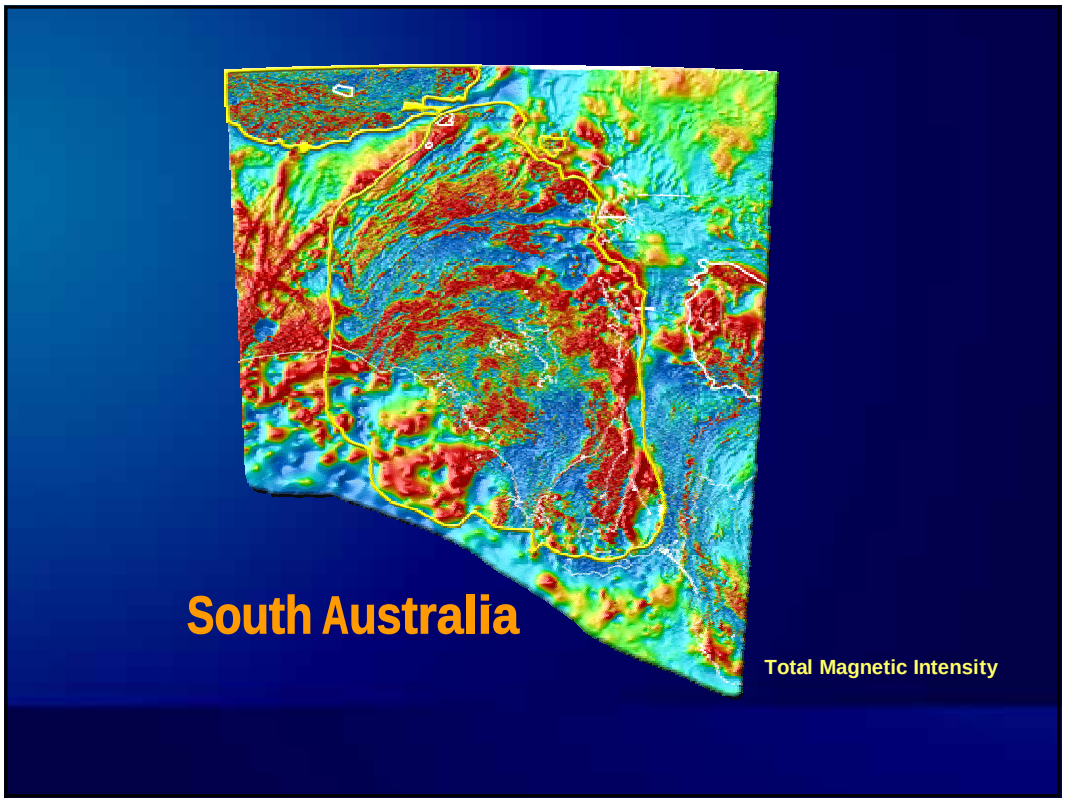
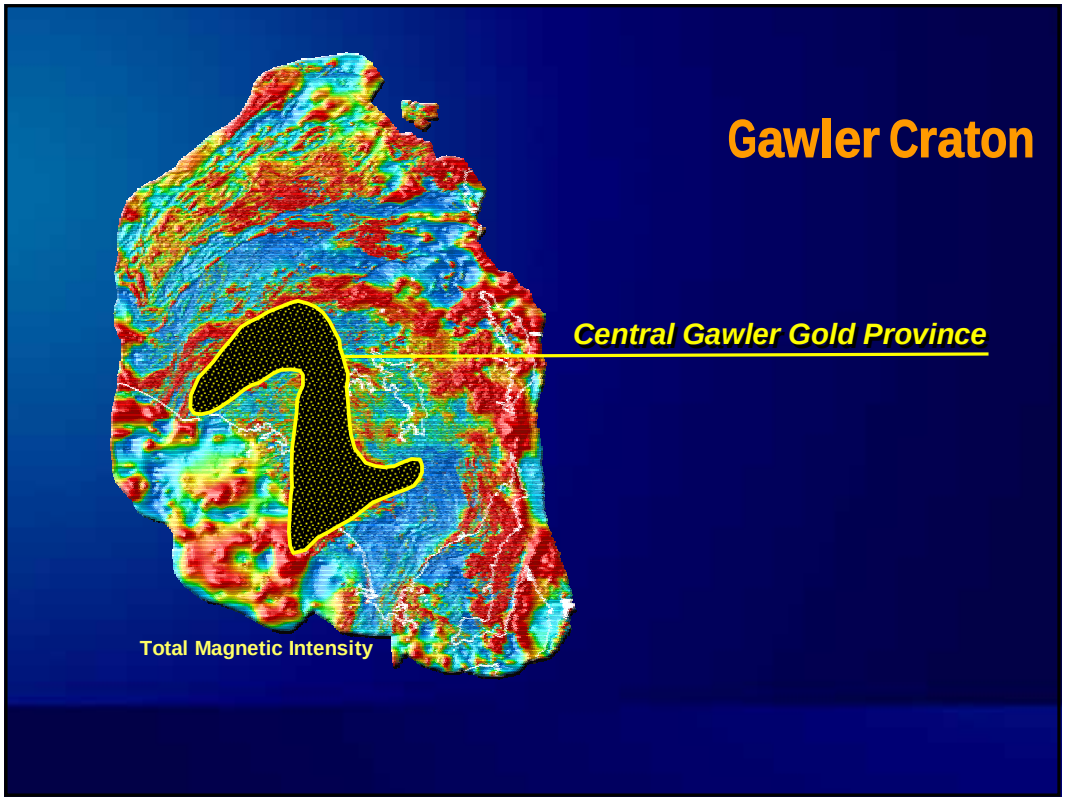
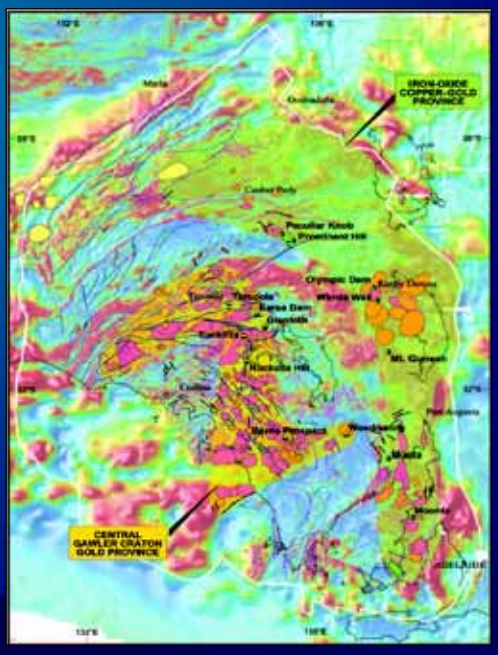

South Australia
Total Magnetic Intensity


Gawler Craton
Central Gawler Gold Province
Total Magnetic Intensity

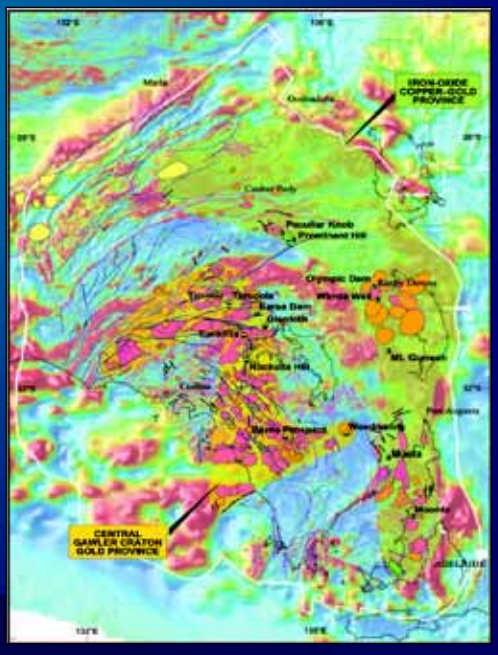
Current Definition



A region in the western Gawler Craton which has a close spatial association between Hiltaba Suite plutons, coeval structure and gold dominant mineralisation.

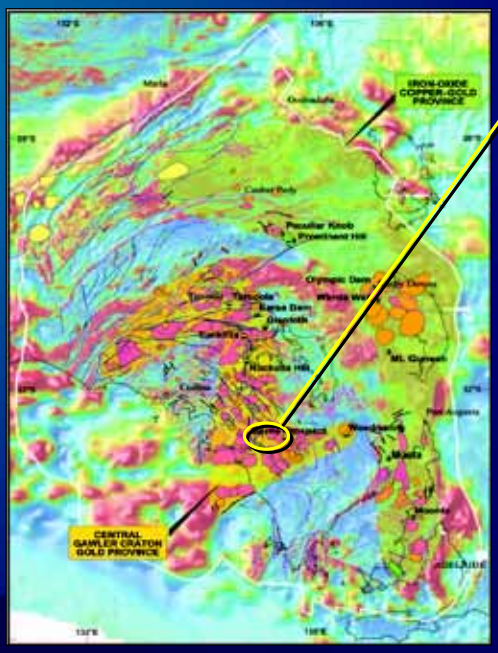
Purely based on empirical observations

The CGGP - Is It Real?



- Empirical observations (this talk)
- Mineralisation - Barns, Nuckulla Hill, Tunkillia, Glenloth/ Earea Dam, Tarcoola, ?Weednanna…
- Geology - spatial and temporal coincidence of Hiltaba Suite granites, structure and alteration/mineralisation

The CGGP - Is It Real?



Barns

- **Host Tunkillia Suite**
- **Mineralisation controlled by ?syn Hiltaba structures**

Barns Gold Project

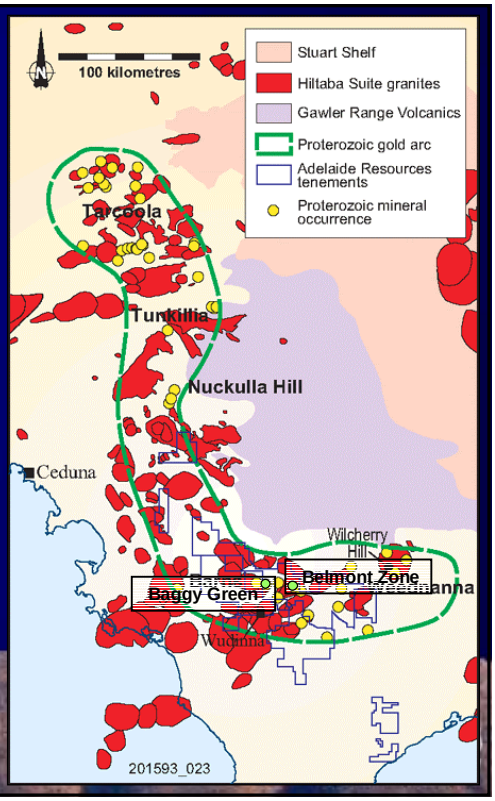
Adelaide Resources Limited
Newmont Australia Limited

2004 exploration has identified new high grade gold prospects east of Barnes:

WUD2 - Belmont Zone
3m at 13.9g/t Au including 1m at 37.8g/t

WUD6 - Baggy Green
8m at 4.79g/t Au from 34m including 1m at 30.6g/t Au and 11m at 2.3g/t Au from 38m

Exploration expenditure for 2004 in excess of $1M



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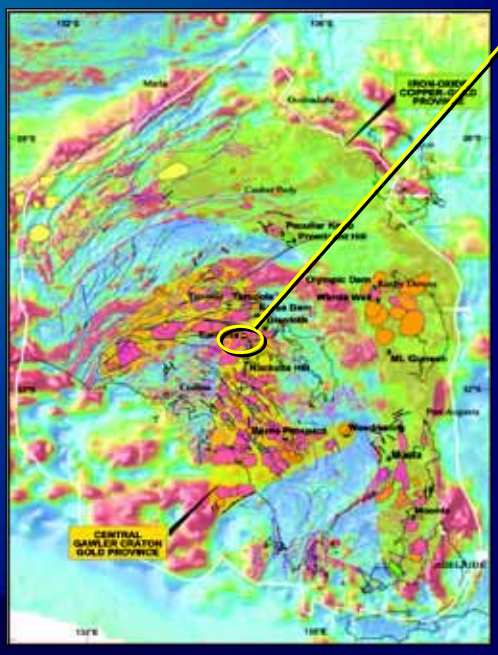

Tunkillia

- **Host Tunkillia Suite**
- **Mineralisation controlled by intersection of Yarlbrinda and Yerda Shear Zones**
- **These structures active syn Hiltaba**

Tunkillia

Helix Resources

JORC compliant resource for Area 223 of 10.5Mt at 2.2g/t Au and 5.6g/t Ag (730 000 ozs Au and 1.9M ozs Ag) contained within a global envelope of 14 million tonnes estimated to contain 1 million ozs gold

New high grade intersections at Area 223 have potential to significantly upgrade resource

Estimated costs for exploration drilling & Feasibility Study in 2004 $7.18million. Approx. 7800m of a 14000m drilling program completed

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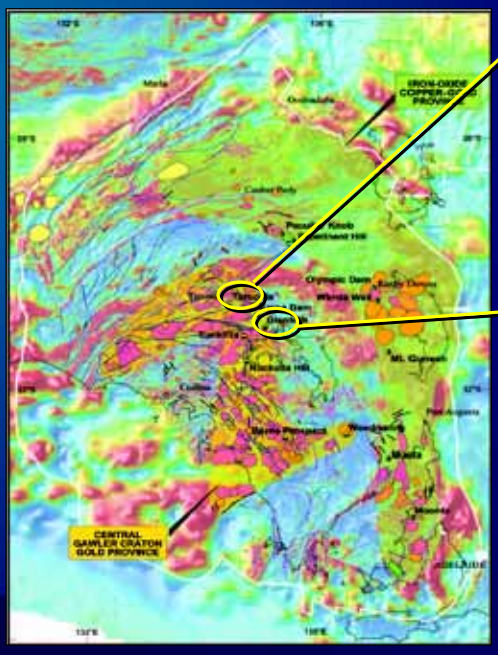


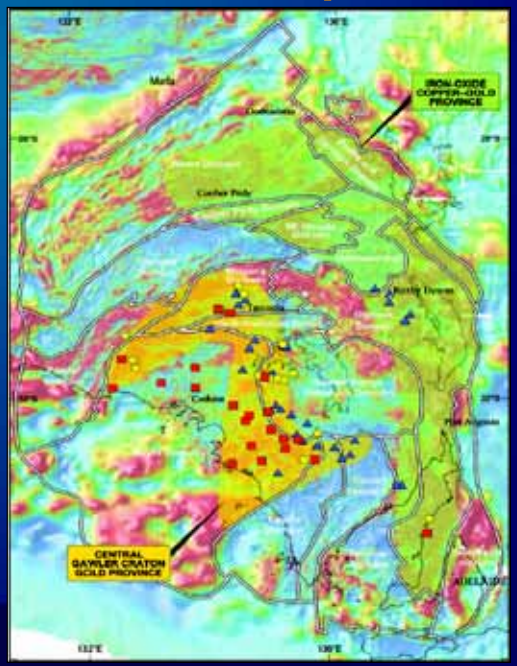
Tarcoola

- Host Tarcoola Formation and granite
- Mineralisation controlled by syn Hiltaba structures

Glenloth, Earea Dam

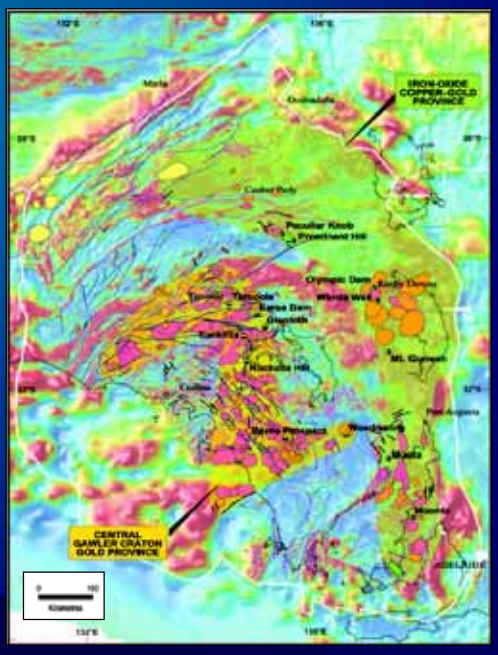
- Host Glenloth Granite, Kenella Gneiss
- Mineralisation controlled by ?syn Hiltaba structures

Empirical Observations



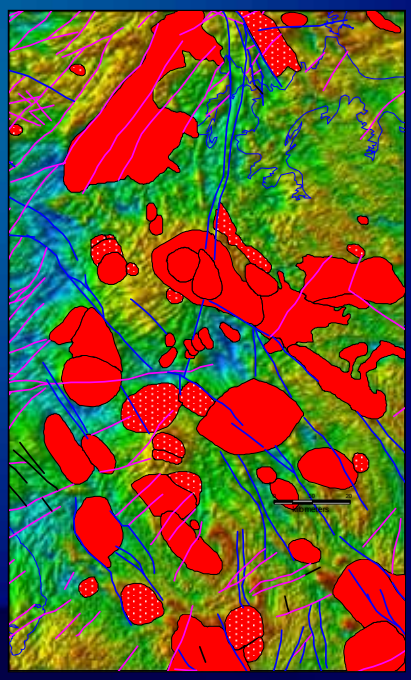
- Crosses domains => late in geological history
- Red Epsilon Nd > 0
- Blue Epsilon Nd < -2.5
- Transition from primitive to crustal influence
- Is composition of crust important?
- Or major crustal boundary?
- Yarlbrinda – Yerda Shear Zones

The CGGP - Is It Real?



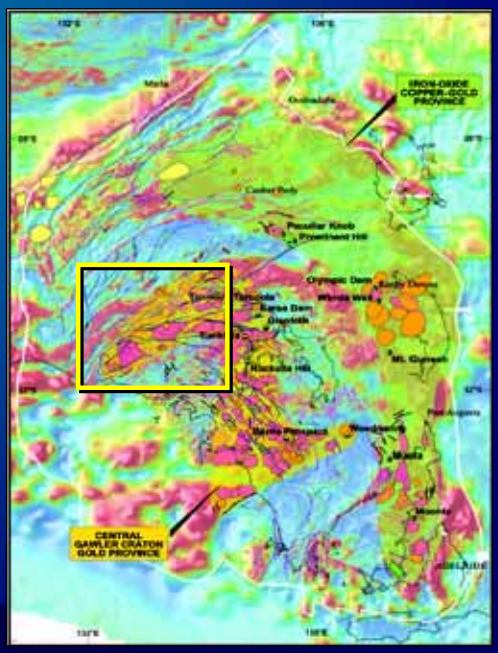
- The exciting observations…..
- A province over 500 km long
- Mineralisation from end to end
- Relatively unexplored with modern exploration techniques

The CGGP - Is It Real?



- Structural timing
- Yarlbrinda deforms early phase of Kondoolka pluton
- Late phase stitches shear zone
- Both granites dated as Hiltaba age
- Also NW structural control on emplacement

Western Extension



- A western extension?
- Still have Hiltaba Suite
- Same structural timing
- Why not mineralisation?

The CGGP - Is It Real?

The next 3 talks!

- What is the typical mineralisation model?
- Transitional Porphyry
- Mesothermal
- Epithermal
- Orogenic lode gold
- Characteristics of each

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The Collaborative Project

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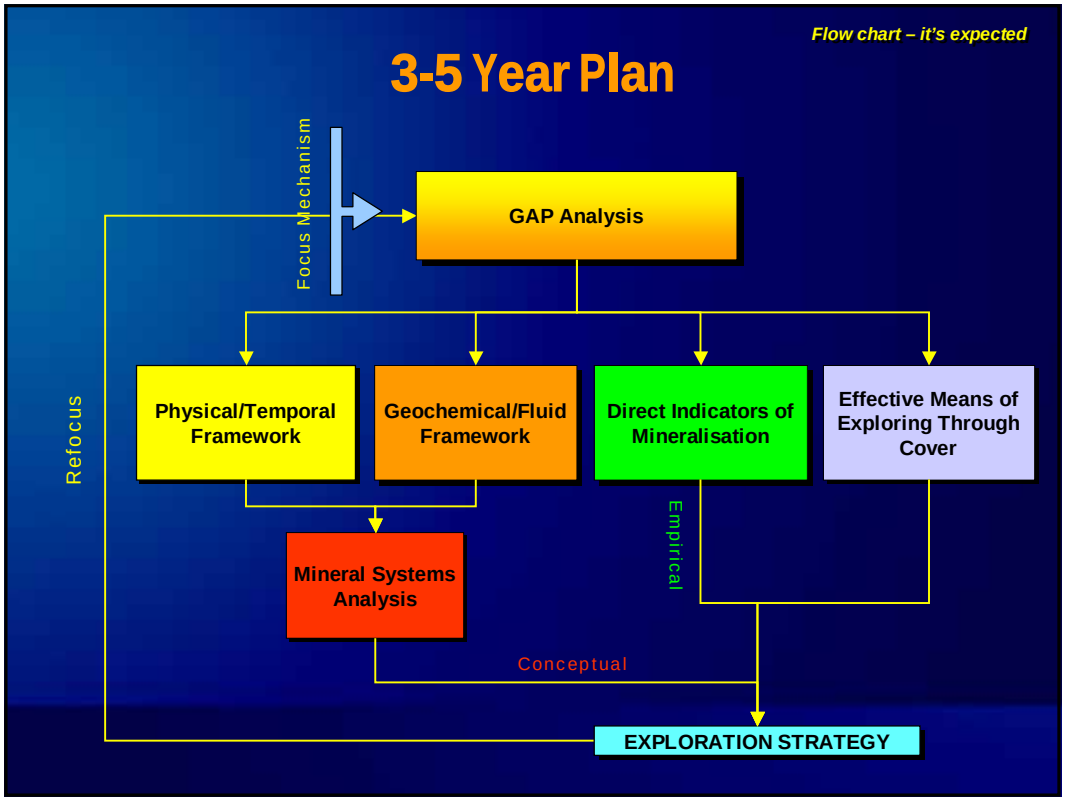
Flow chart – it's expected

3-5 Year Plan



Collaboration

Physical/Temporal Framework	Geochemical/Fluid Framework	Mineral Systems Analysis	Direct Indicators of Mineralisation	Effective Means of Exploring Through Cover
PIRSA	PIRSA	Geoscience Australia	PIRSA	PIRSA
University of Adelaide	University of Adelaide	PIRSA	Geoscience Australia	Geoscience Australia
Monash University	Monash University	CODES	CRC-LEME	CRC-LEME
	Geoscience Australia		University of Adelaide	
			Monash University	