



## **AVOCA RESOURCES LTD**

### **“Focused on Success”**

Gawler Craton: State of Play  
August 2004

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## **Presentation Outline.**

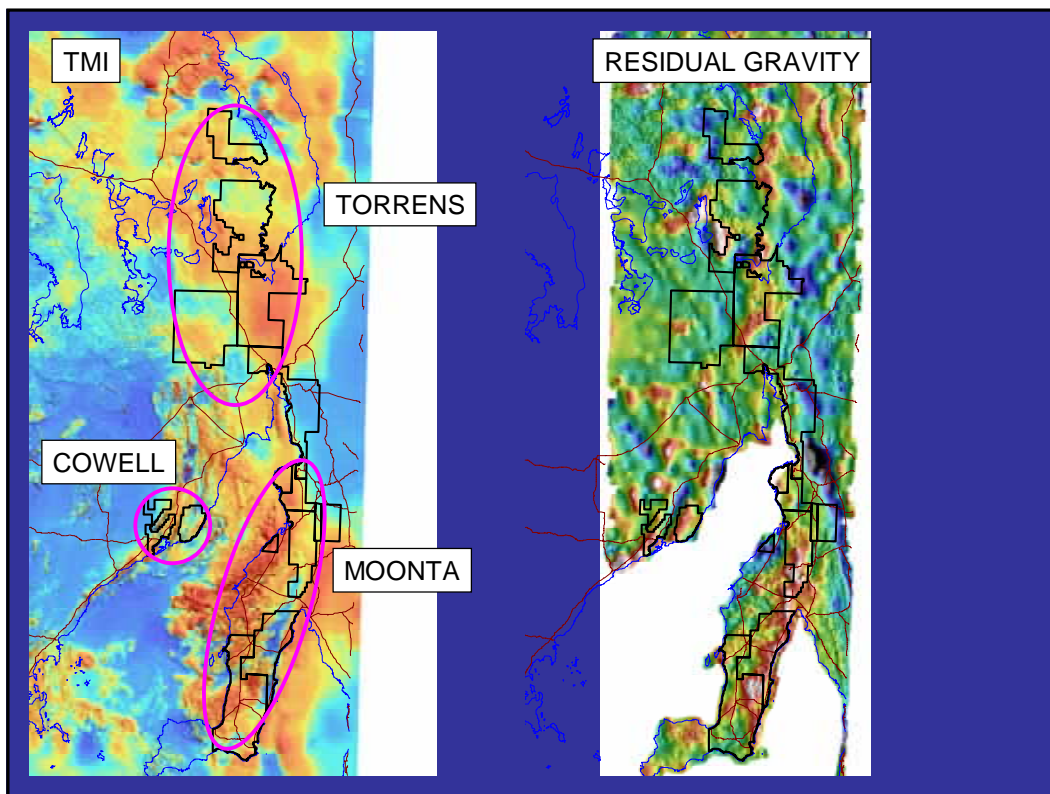
- **Who is Avoca?**
- **Why is Avoca in SA?**
- **How do you cut back over 16,000km<sup>2</sup> to meaningful drill targets?**
- **What has Avoca achieved in SA so far, and where to from here?**
- **Summary**

## Who is Avoca?

- Listed April 2002 (“AVO” on ASX)
- Small, aggressive, technically driven explorer (soon to be producer) focussed on Eastern Goldfields and Olympic Cu-Au Province
- Main projects: Higginsville Au, Mt Fisher Au and South Australian Cu-Au projects
- Several other Au project JVs in WA
- Market Capitalisation           \$12m
- Major Shareholders   - Gold Fields (19%)

## Why is Avoca in SA?

- Discovery of Prominent Hill by MNR highlighted possibility of other large IOCAD
- Ease and affordability to peg leases – Avoca pegged 16,000km<sup>2</sup> online
- Excellent availability and quality of data from PIRSA/GA
- Olympic Cu-Au Province is best place to look for large IOCAD in Australia



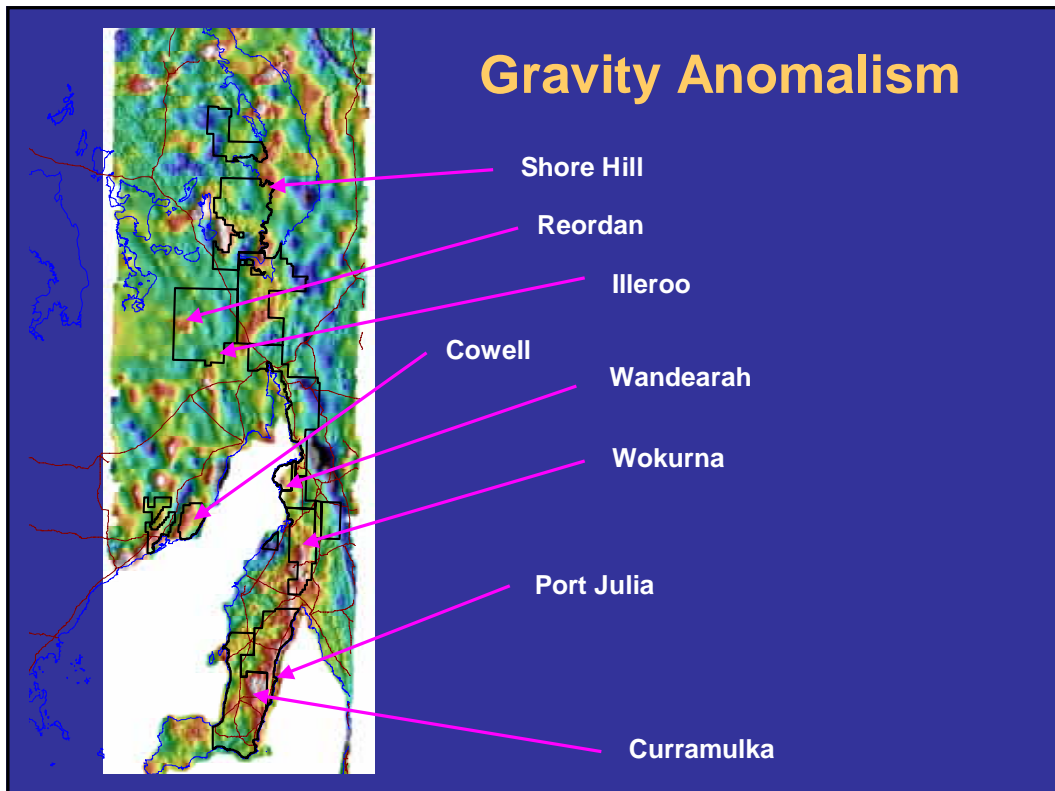
## Avoca's IOCAD Exploration Strategy

- Define essential ingredients for IOCAD
- Compile existing data
- Identify obvious analogues
- Develop and trial innovative techniques
- Test targets quickly and reassess results
- Reduce tenement holding and focus on best targets

## IOCAD Ingredients

- Gravity +/- magnetic anomalism
- Proximity to (Hiltaba) Granite
- Haematite overprinting magnetite
- Regional-scale structures
- Regional sodic alteration – local potassic alteration
- Cu-Au-U-REE-Ag anomalism – historic mines

## Gravity Anomalism



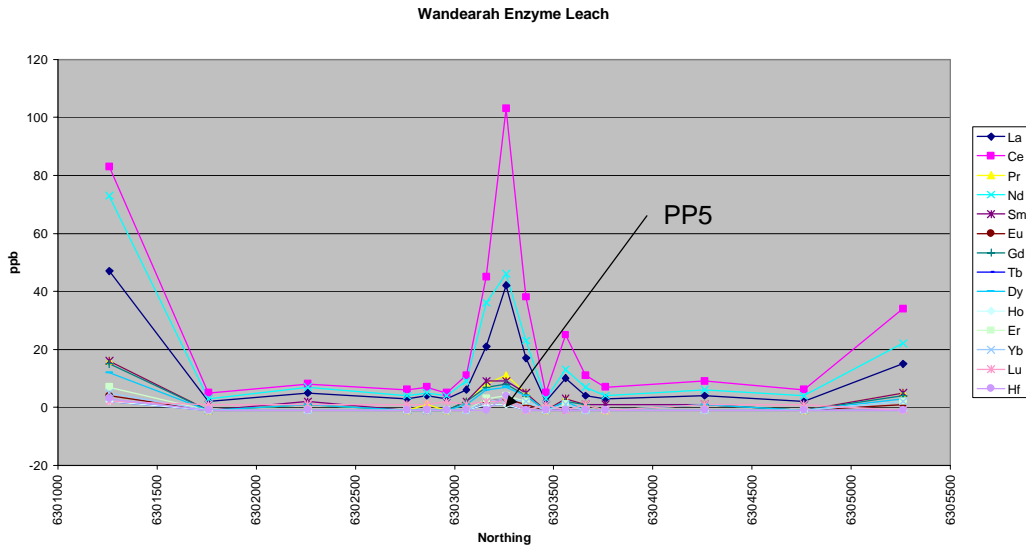
## Orientation geochemistry

- Previous work by Mazzuchelli et al (1980), Wang et al (1999), Hedger et al (2001)
- Surveys completed at:
  - Wandearah (PP5)
  - Parara Mine
  - Hillside Mine
  - Yorke Valley Mine

## Wandearah PP5

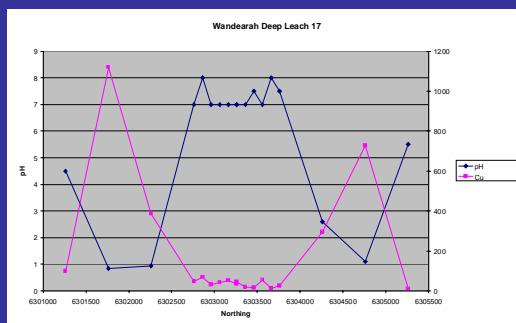
- PP 5 – 3.7m@ 1.5% Cu from 300m in Neoprot. Emeroo Conglomerate overlying haematite altered brecciated metasediments
- Tried Enzyme Leach, water leach, aqua-regia, EDTA and Deep Leach 17 on B-horizon -60# soils
- 100-500m sample spacing

# Wandearah PP5



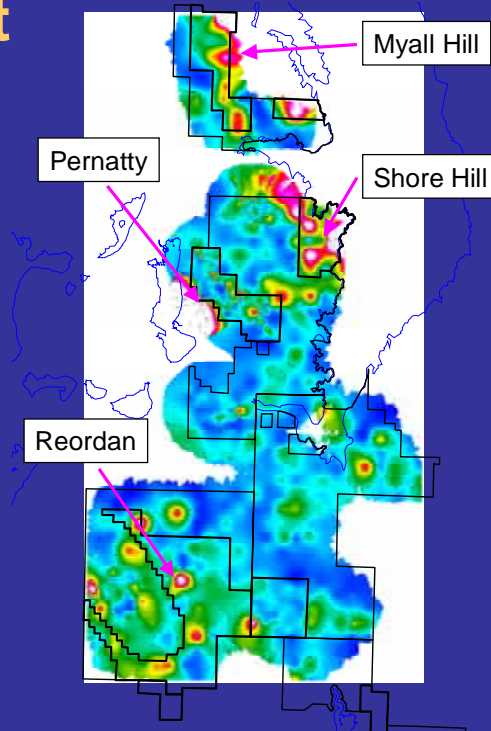
# Wandearah PP5

- Enzyme leach and water leach produced best anomaly contrast over PP5
- Aqua-regia, EDTA and Deep Leach 17 badly affected by soil/leach pH



## Torrens Project

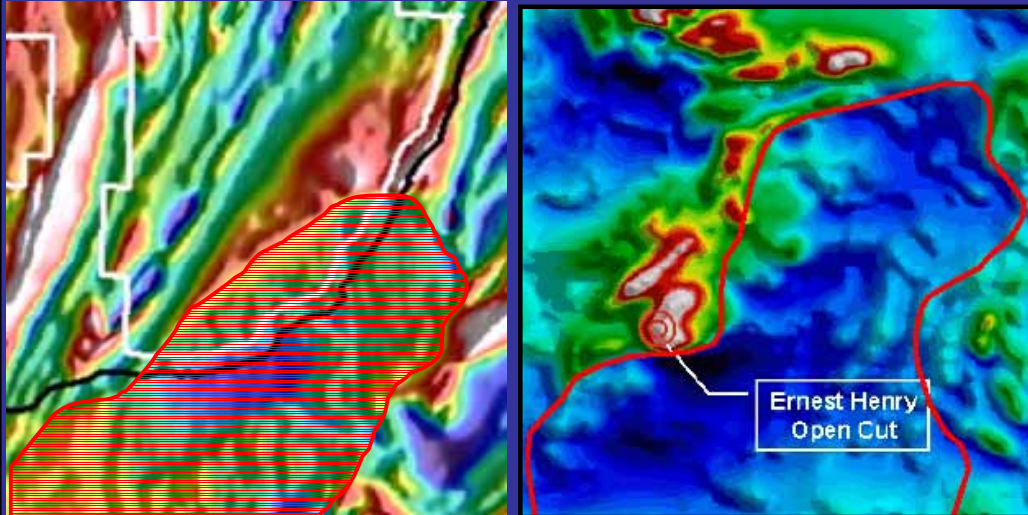
- Gravity and partial leach sampling completed over approx. 10,000km<sup>2</sup>
- Approx. 1000 sample sites
- Numerous large Cu-U-REE (+/- Au, Hg) and/or gravity anomalies identified
- Ground reduced as a result of survey to focus on anomalous areas



## Cowell Project (Glensea)

- 80km<sup>2</sup> magnetic anomaly adjacent to interpreted Hiltaba Granite
- Similarities to geological setting of Ernest Henry IOCAD
- 100m of Cowell Basin sediments obscuring basement
- No previous exploration

## Glensea



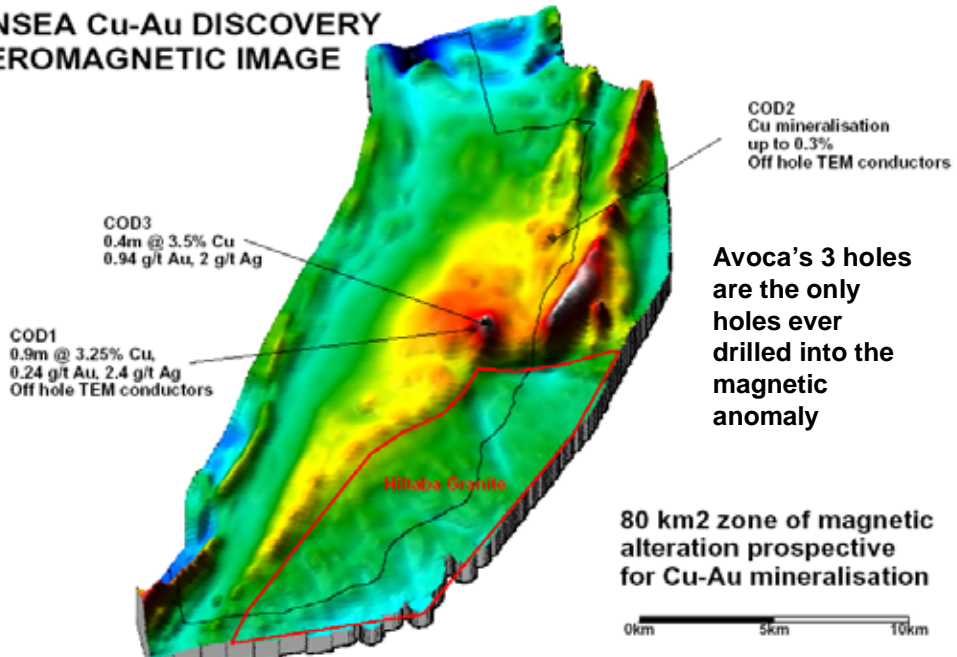
## Ernest Henry

### Cowell Project (Glensea)

- Avoca completed gravity survey from 100m-2km spacing
- Modelled gravity and magnetic data to highlight targets
- Tested best two gravity anomalies and one magnetic anomaly
- All 3 holes intersected Cu-Au mineralisation and extensive alteration but did not explain gravity anomalism

# Glensea

## GLENSEA Cu-Au DISCOVERY AEROMAGNETIC IMAGE





**COD1, 115.47m**  
**Massive chalcopyrite with quartz.**  
**0.9m @ 3.25% Cu, 0.24 g/t Au, 2.4 g/t Ag**

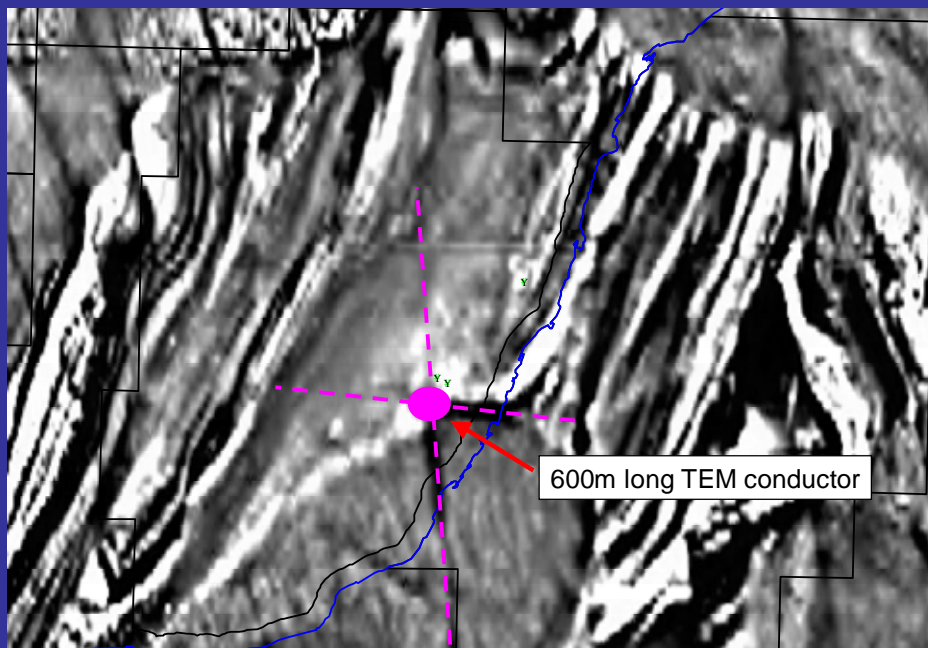


**COD3 – 183.7m**  
**Massive chalcopyrite vein**  
**0.4m @ 3.5% Cu, 0.94 g/t Au, 2 g/t Ag**

## Cowell Project (Glensea)

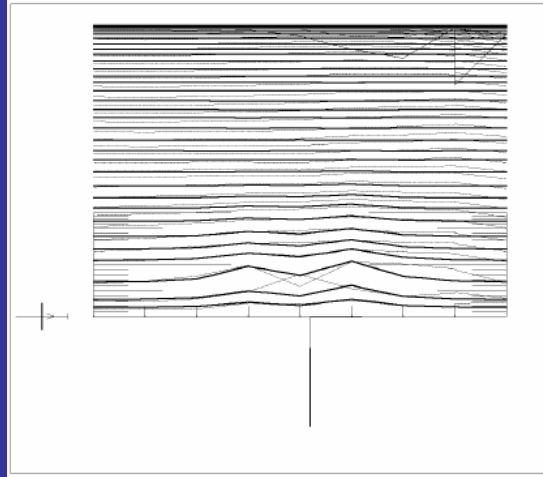
- COD1,3 intersected narrow, high grade Cu-Au-Ag veins
- Focus shifted to Moonta-style mineralisation
- Down hole TEM completed on 2 holes locating off hole conductors
- 400m x 200m surface TEM survey completed
- Large 600m long conductor identified SW of COD1 beneath conductive cover

## Glensea TEM target

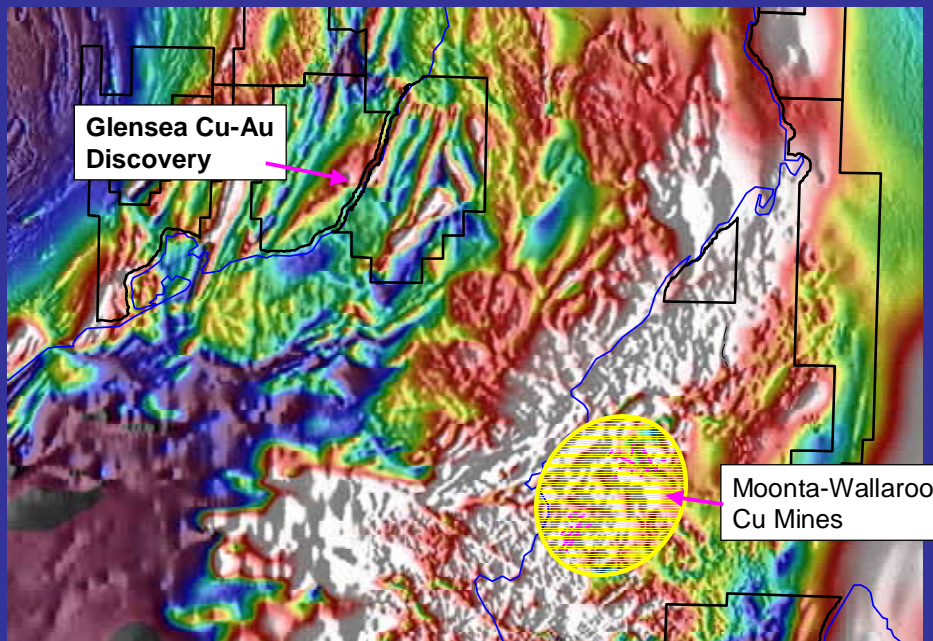


## Cowell Project (Glensea)

- 600m long
- 300m depth extent
- 1000 Siemens
- Open to south
- 120m below surface
- Conductive cover

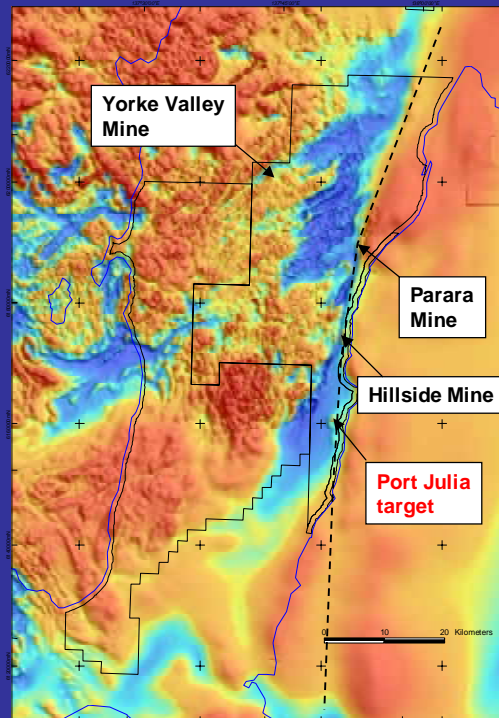


## Glensea – A New Moonta Field?



## Moonta Project

- Yorke Peninsula
- Historic Cu-Au Mines
- Extensive alteration
- Calcrete Cu-Au-Ag anomalies
- Haematite breccias observed at 2 locations
- 12 RC holes and 2 diamond holes drilled

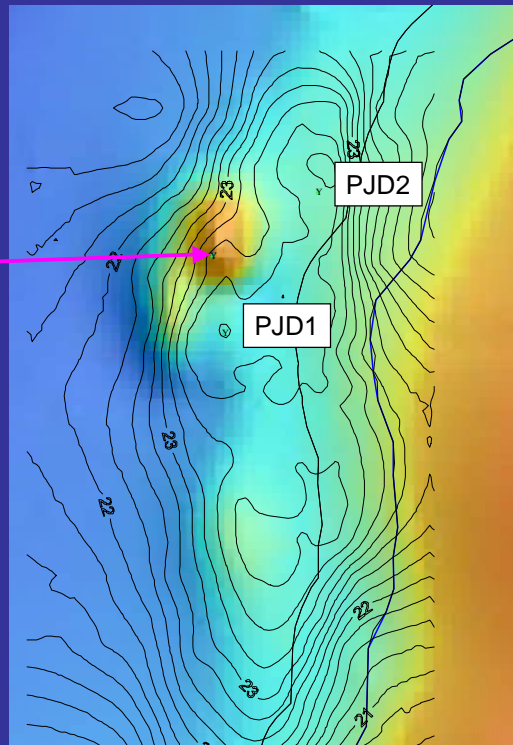


## Port Julia

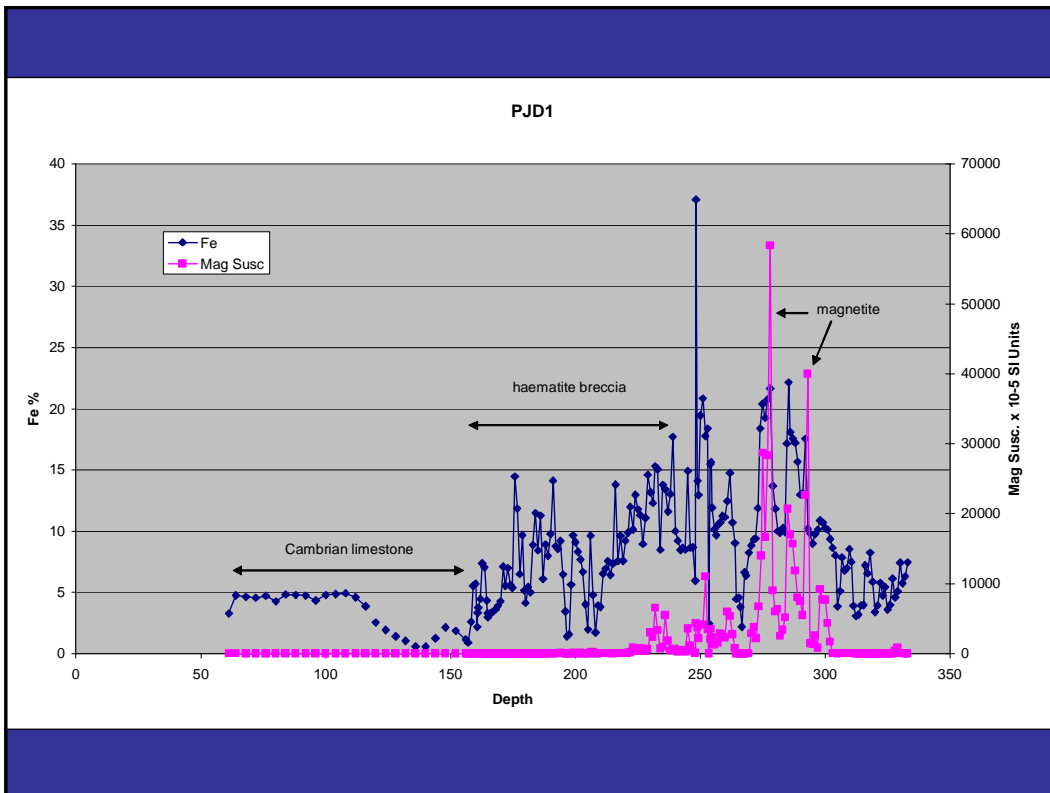
- Gravity anomaly adjacent to small magnetic anomaly
- Similarity to geophysical signature of Prominent Hill
- PJ1a (BHP, 1984) intersected altered and brecciated metasediments with haematite overprinting magnetite and anomalous Cu, U and REE's

## Port Julia

- PJ1a targeted magnetic anomaly
- 6km long +2 mGal gravity anomaly defined by Avoca
- Avoca drilled two DDH and intersected mineralised haematite breccia



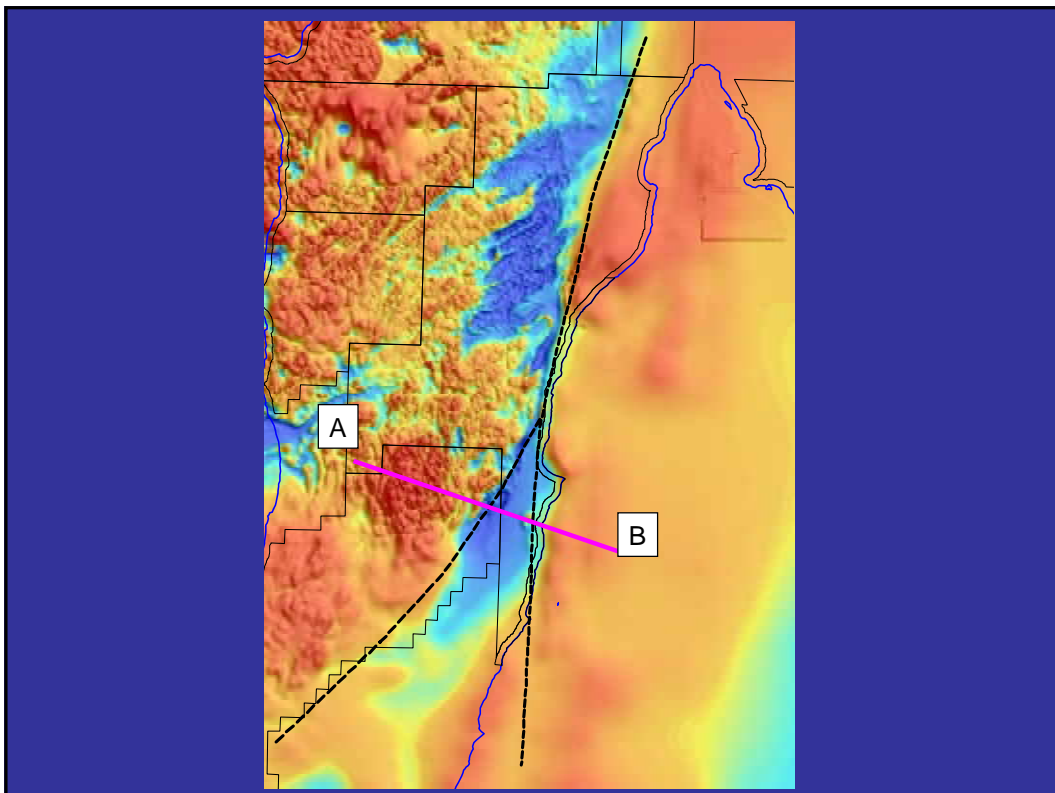




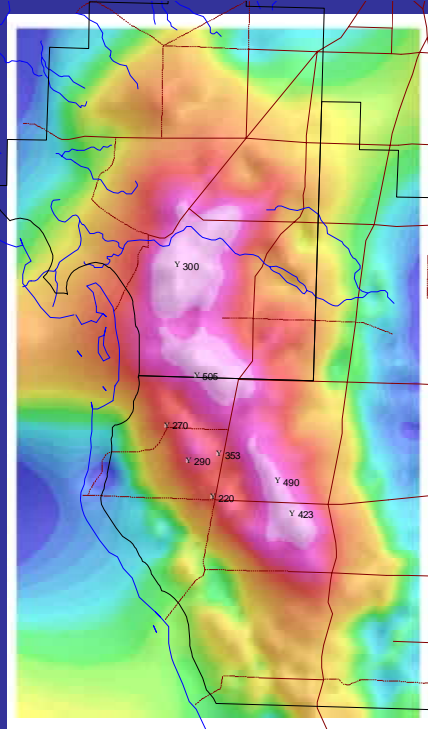
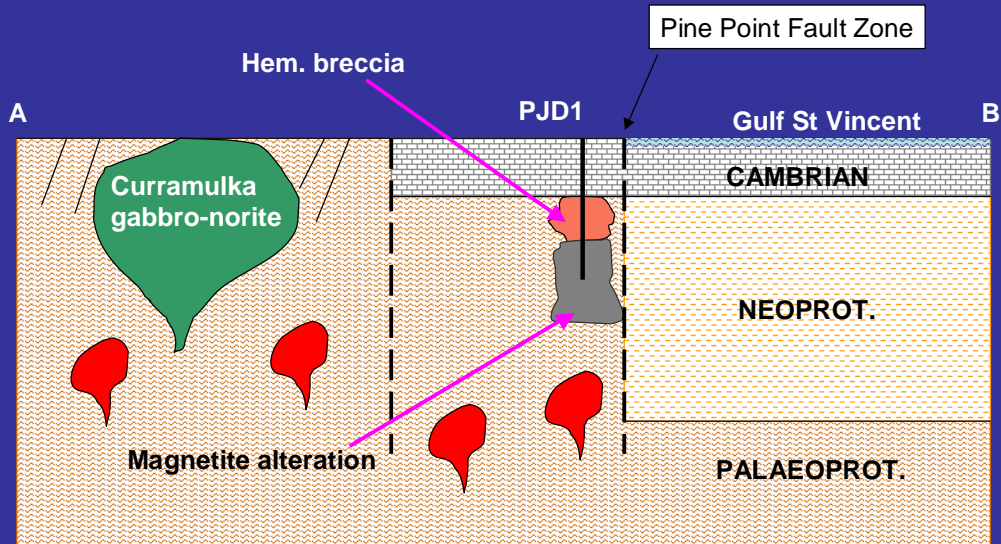
## Port Julia

Results very significant:

- 1<sup>st</sup> hole into 6km long gravity anomaly intersected haematite breccia
- Deeper magnetite alteration overprinted by shallower haematite alteration
- Cu up to 0.76%, anomalous Au, U, REE
- Several other targets to be tested



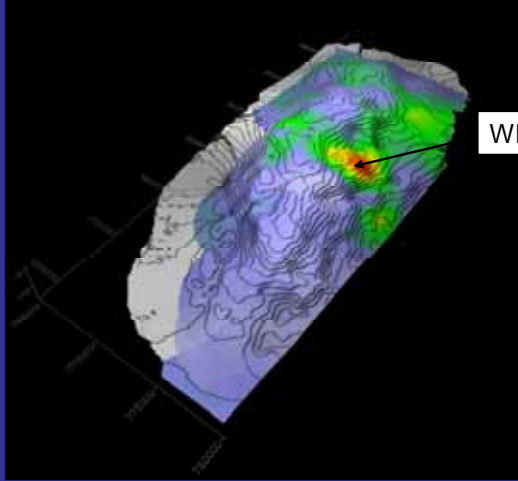
## Interpreted Cross-section



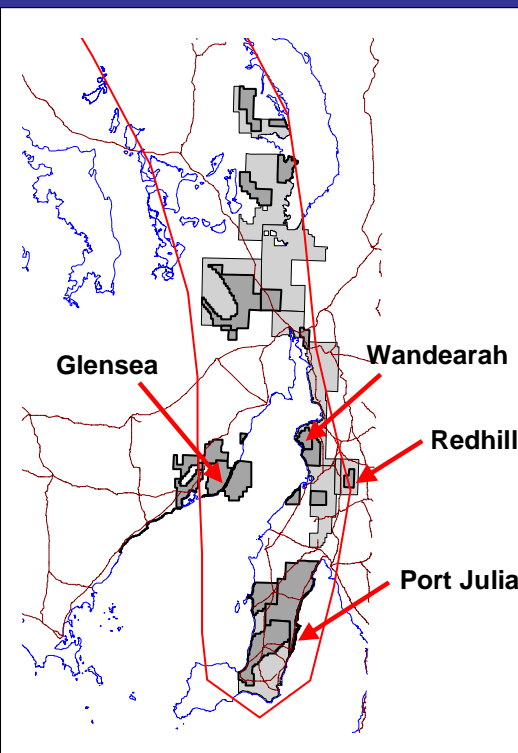
## Wandearah

- 16km long gravity complex overlying deeper magnetic anomaly
- Previous drilling (1978) targeted magnetic high and regional gravity anomalies, but only 8 of 20 DDH intersected Lower Prot. basement of haematite altered and brecciated metasediments
- 5 of 20 DDH intersected Cu >0.1%

## Wandearah



- 2km roadside sampling
- 2 sample anomaly at “Southbank” with Cu >20 x background and coincident U and REE’s
- Soils infilled and target tested with WDD01
- pyrite and chalcopyrite observed in shale and siltstone – assays pending



## Ground Reduction

Area km <sup>2</sup>	EL's	ELA's	TOTAL
April 2003	15,989	613	16,602
April 2004	6,821	94	6,915

## Summary

**Tested a variety of targets in 2 years**

**Reduced initial 16,000km<sup>2</sup> landholding to approx 7,000km<sup>2</sup>**

**Discovered:**

- **Moonta-style Cu-Au mineralisation at Glensea and large TEM conductor yet to be tested**
- **OD-style haematite breccia at Port Julia**
- **Large Cu-U-REE surface anomalies north of Port Augusta**
- **Sediment-hosted Cu(?) at Wandearah**