

# PepinNini Minerals Ltd

*Deploying technical innovation to unlock  
South Australia's Musgrave Province*

Presentation to SAREIC

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Minerals Limited

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# PepinNini (PNN) – An overview

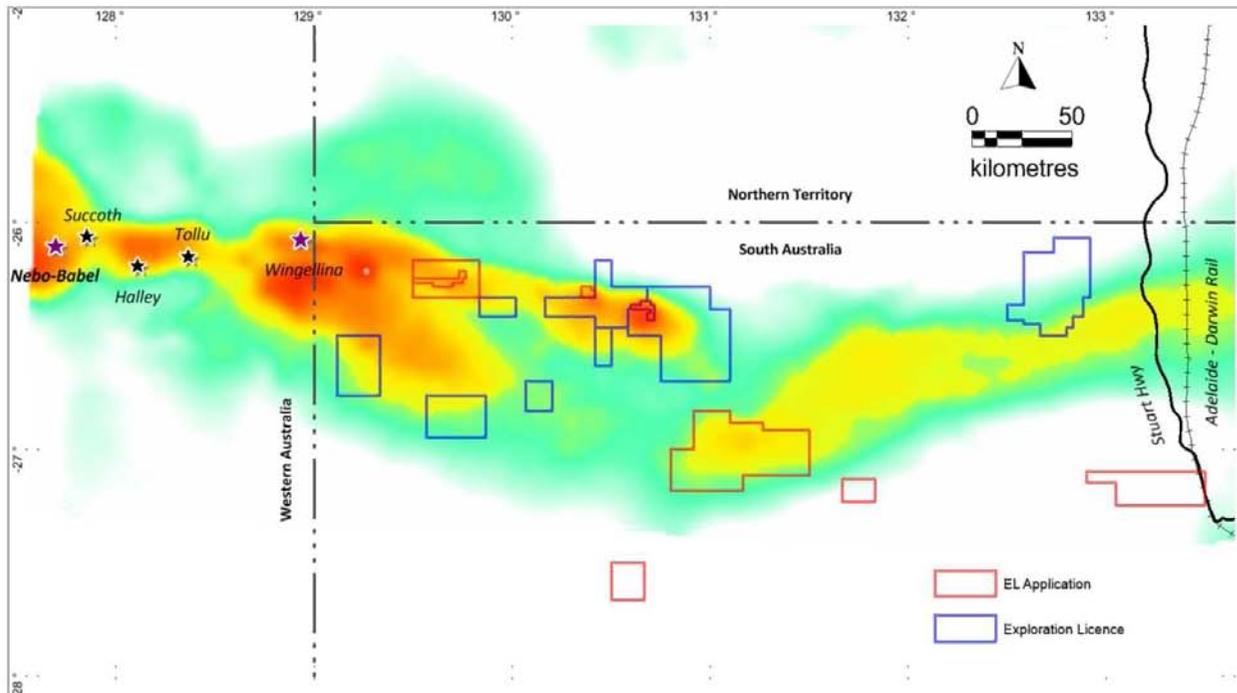
*Established explorer, diversified minerals and geographic exposure*

- Quality exploration portfolio
  - Diversification across mineral type: Ni, Cu, Fe, U, Au, Ag, Platinum Group, base metals
  - Strategic locations
  - Variety of mineralised styles
- Low-cost exploration model
  - Company-owned infrastructure – drilling rig and field camp
  - Lean cost base
- JV partnerships – Rio Tinto, SinoSteel
- Clear resource potential evident at key sites
- Experienced leadership team



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# Musgrave: South Australia's untapped resource

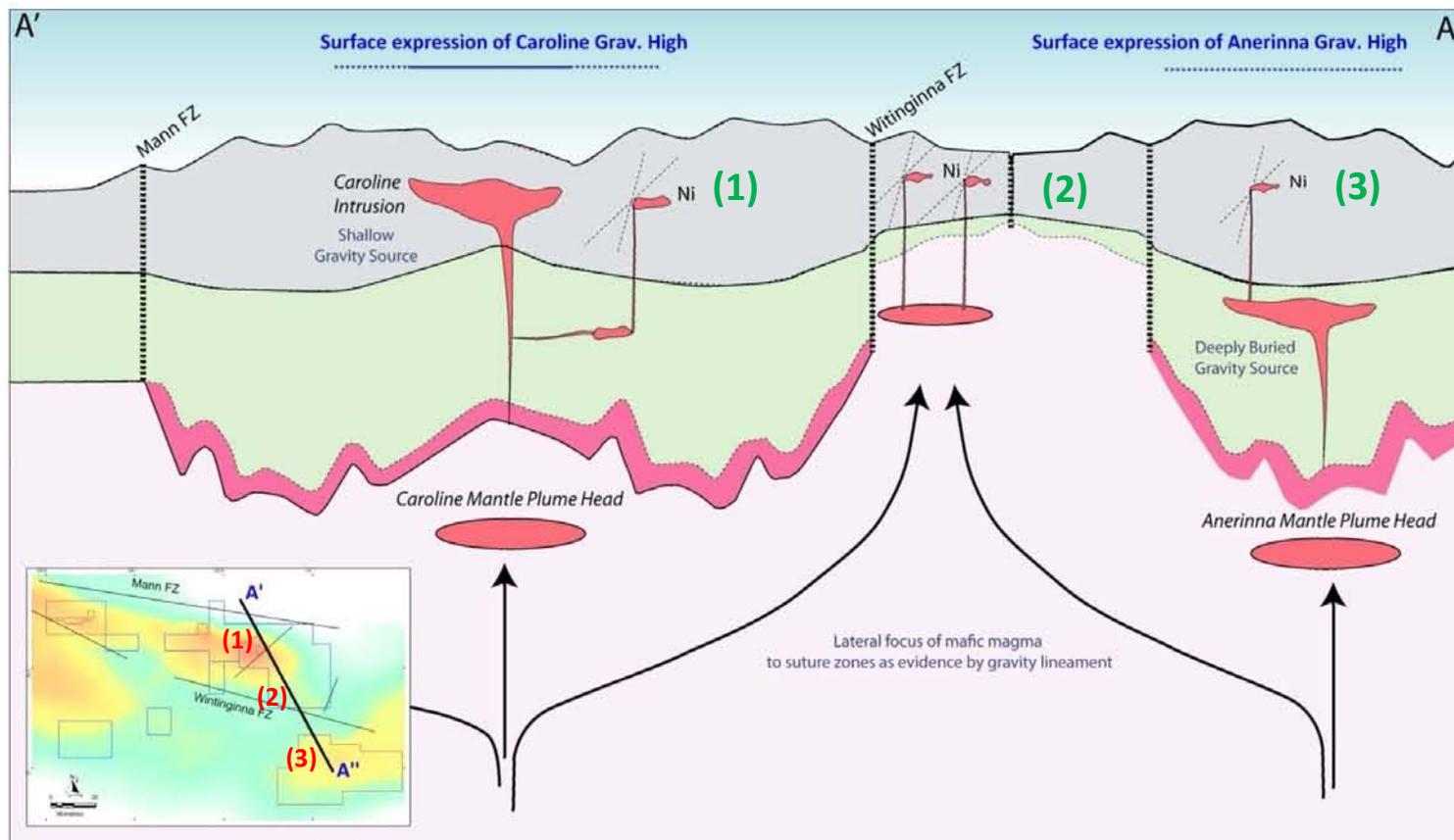


- Overlying key gravity 'highs' that host significant Ni-Cu mineralisation in WA
- Closer to major infrastructure than WA peers
- No mines established yet
- PepinNini tenures very well positioned
  - Large land package (9600km<sup>2</sup>)
  - 10 tenements, JV with Rio Tinto on three

***PNN and CSIRO in major R&D collaboration to accelerate drill targeting at key Musgrave sites***

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# PNN's rejuvenated exploration model



- Accelerated and cost-effective refinement of targeting criteria
- R&D collaboration
  - CSIRO
  - PepinNini
  - DMITRE
  - Adelaide University
- Re-focused exploration

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# Deploying technical innovation to refine target mapping

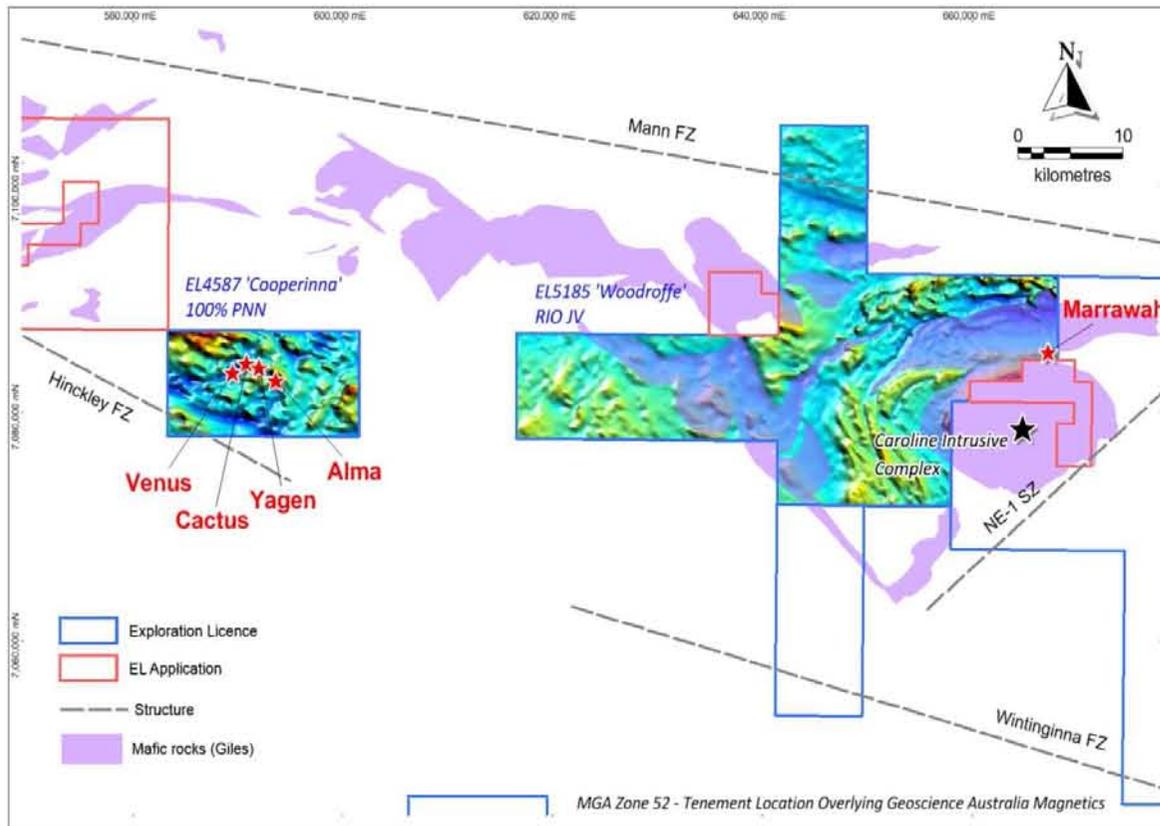


## ***Fixed wing high-moment electromagnetic system***

- CSIRO co-funded regional airborne EM
- \$500k funding commitment
- Cost-effective and rapid delineation of target areas
- Developed by Anglo American for regional target generation
- Similar to that which was instrumental in 2013 discovery of Manhego Ni-Cu system in West Musgrave (ASX: POZ)

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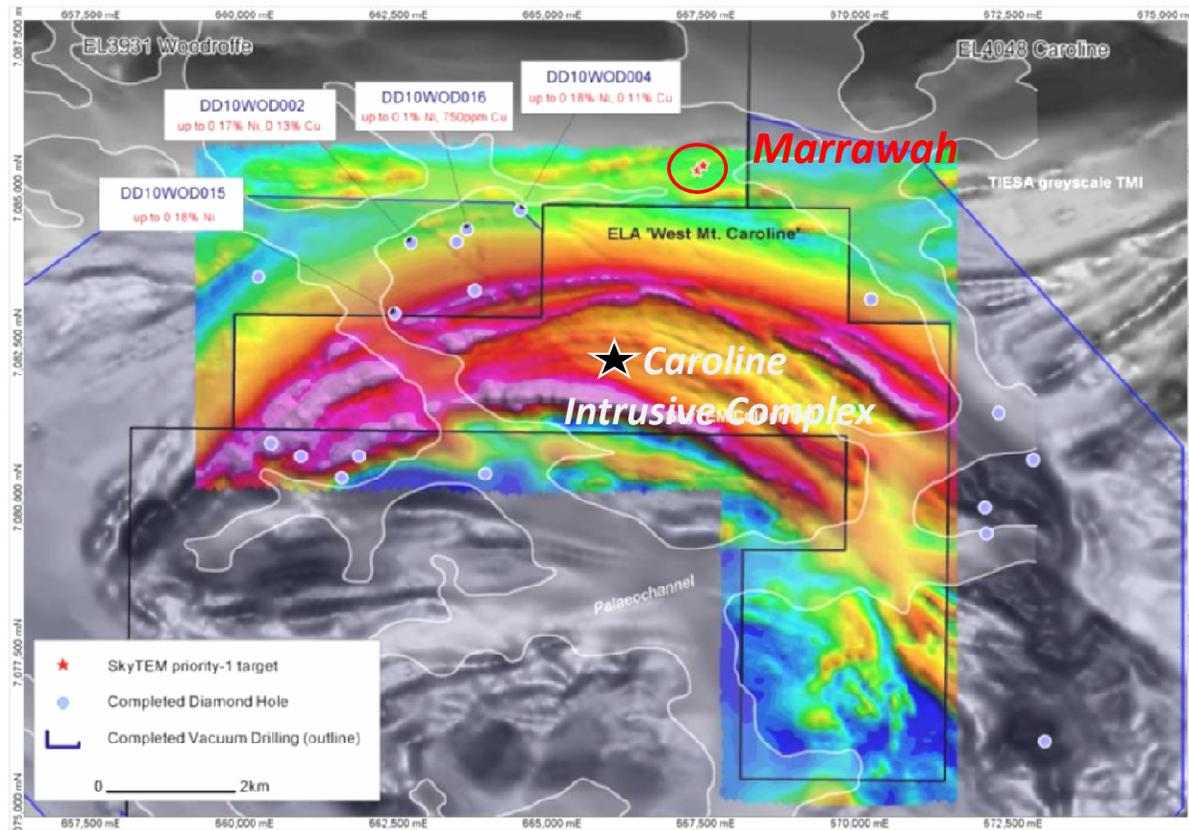
# PNN and Musgrave - a recap



- High-priority conductivity (AEM) targets identified:
  - Cooperinna (100% PNN)
  - Woodroffe (Rio Tinto JV)
- Follow-up ground EM, geological mapping and vacuum drilling completed during 2013 field season
- Ni-Cu targets drill tested at five sites
 

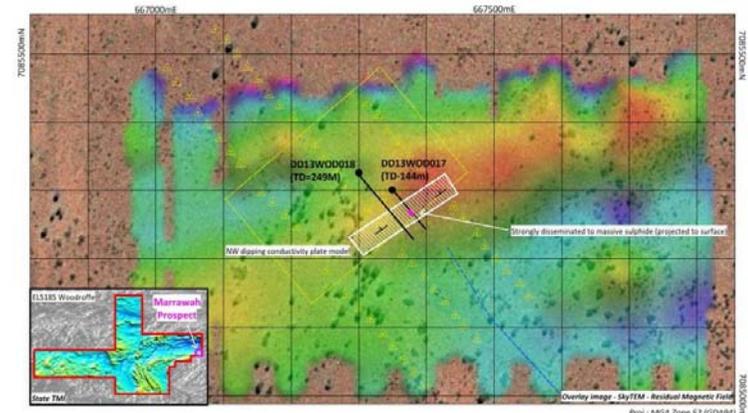
– Venus	graphite	✗
– Cactus	graphite	✗
– Yagen	graphite	✗
– Alma		sulphides ✓
– Marrawah		sulphides ✓

# Marrawah targets refined



**Drilling at Marrawah (Q4 2013) identified magmatic sulphide system**

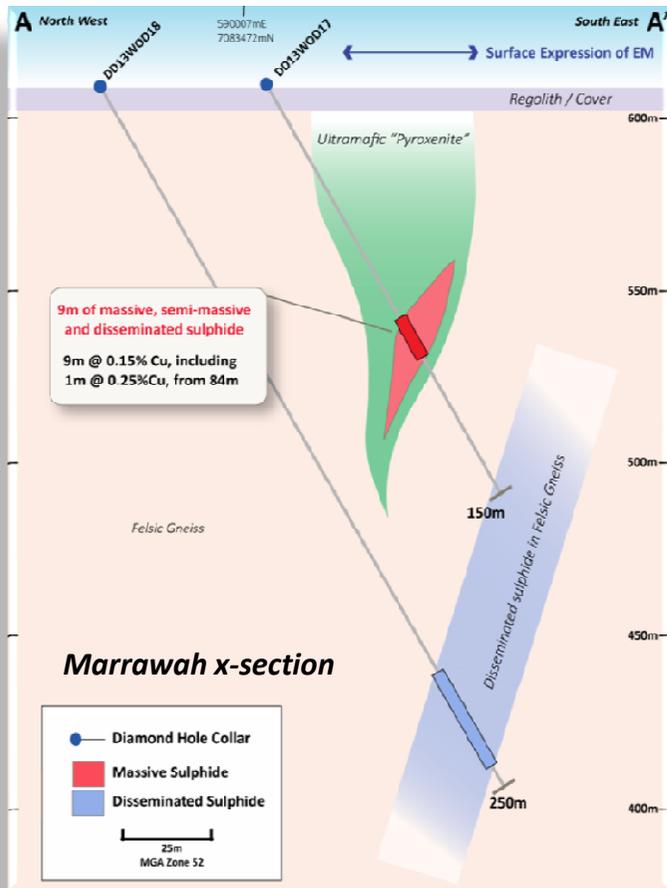
- Potential central feeder dyke to Caroline Intrusion (analogous to Voiseys' Bay)



**Marrawah location on SkyTEM Magnetics**

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# Significant sulphides found at Marrawah

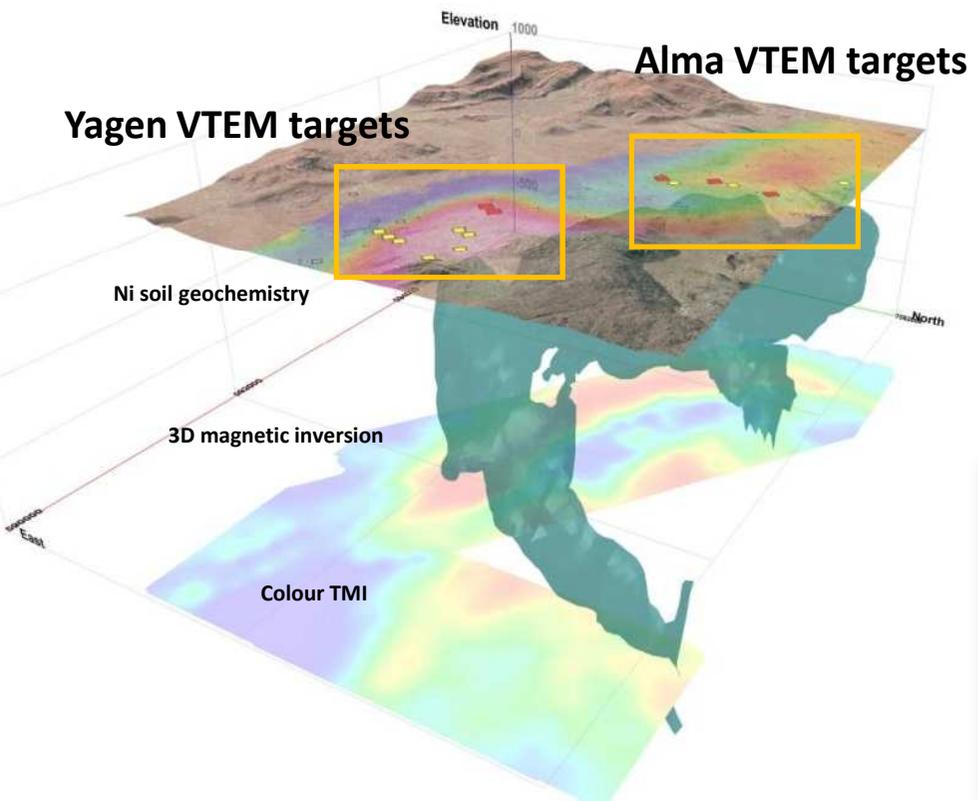


**Significant massive, matrix and disseminated sulphide in ultramafic host rock**

- Pyrrhotite, pyrite and chalcopyrite
- Drill results 9m @ 0.15% Cu and 381ppm Ni, including 1m @ 0.25%Cu, from 84 metres

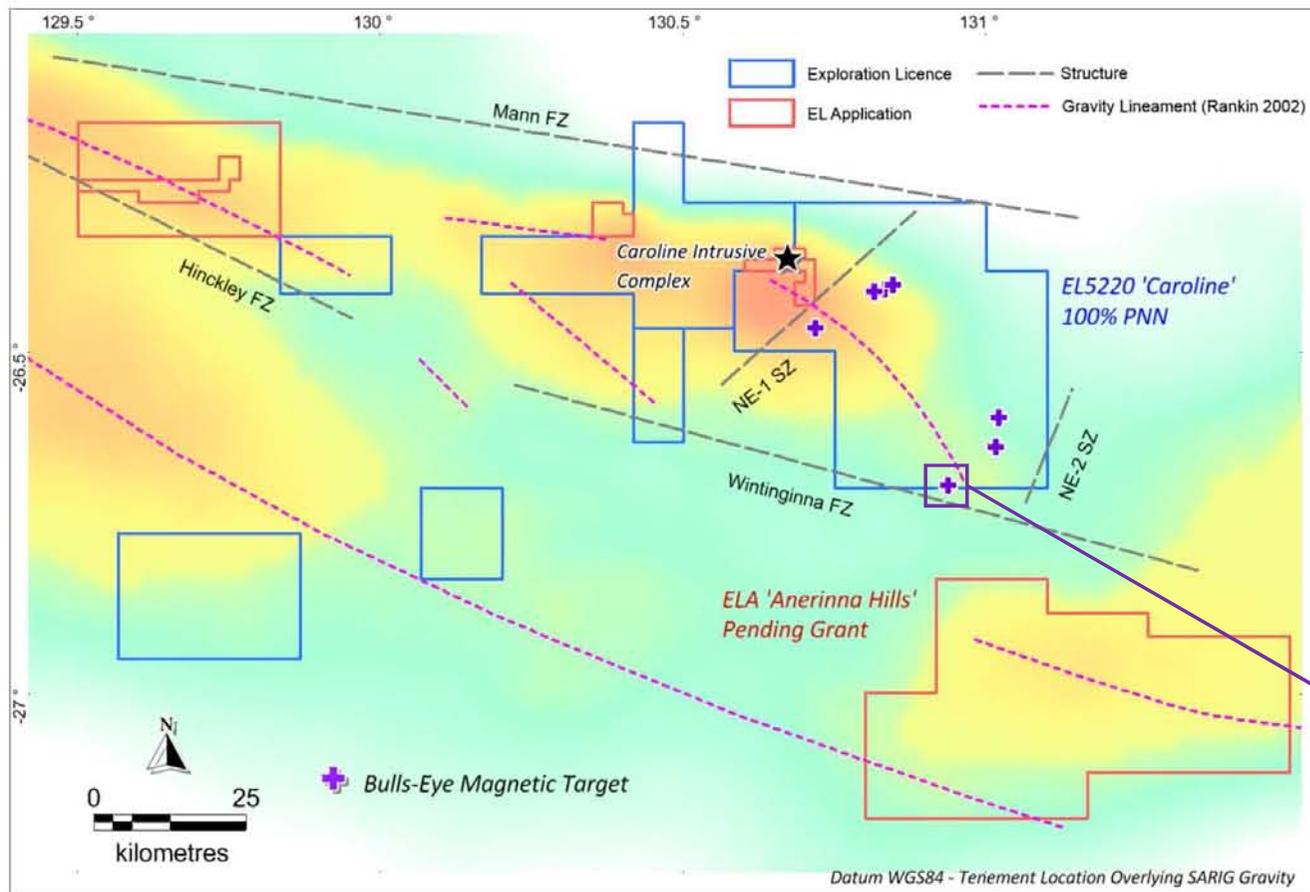
**Massive sulphide in drill core DD13WOD017**

# Positive momentum at Cooperinna



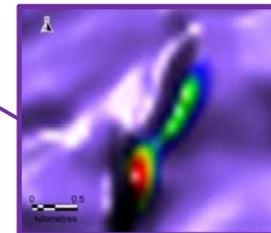
- Contaminated mafic dyke of 'Giles' age identified in outcrop at Yagen and Alma
- Xenoliths evident
- Coincident Ni-Cu anomalism in vacuum soil geochemistry
- Conductive target at Alma sourced by disseminated to matrix pyrrhotite + pyrite

# PNN and CSIRO - Unlocking new ground at Musgrave



## **More than 85% of EL5220 'Caroline' and ELA 'Anerinna Hills' unexplored**

- No existing regional airborne EM
- Untested gravity lineament
- Favorable geological setting
- Multiple magnetic dipole 'bulls-eye' features located at intersections of structural lineaments



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# Musgrave – a high-potential prospect for PNN

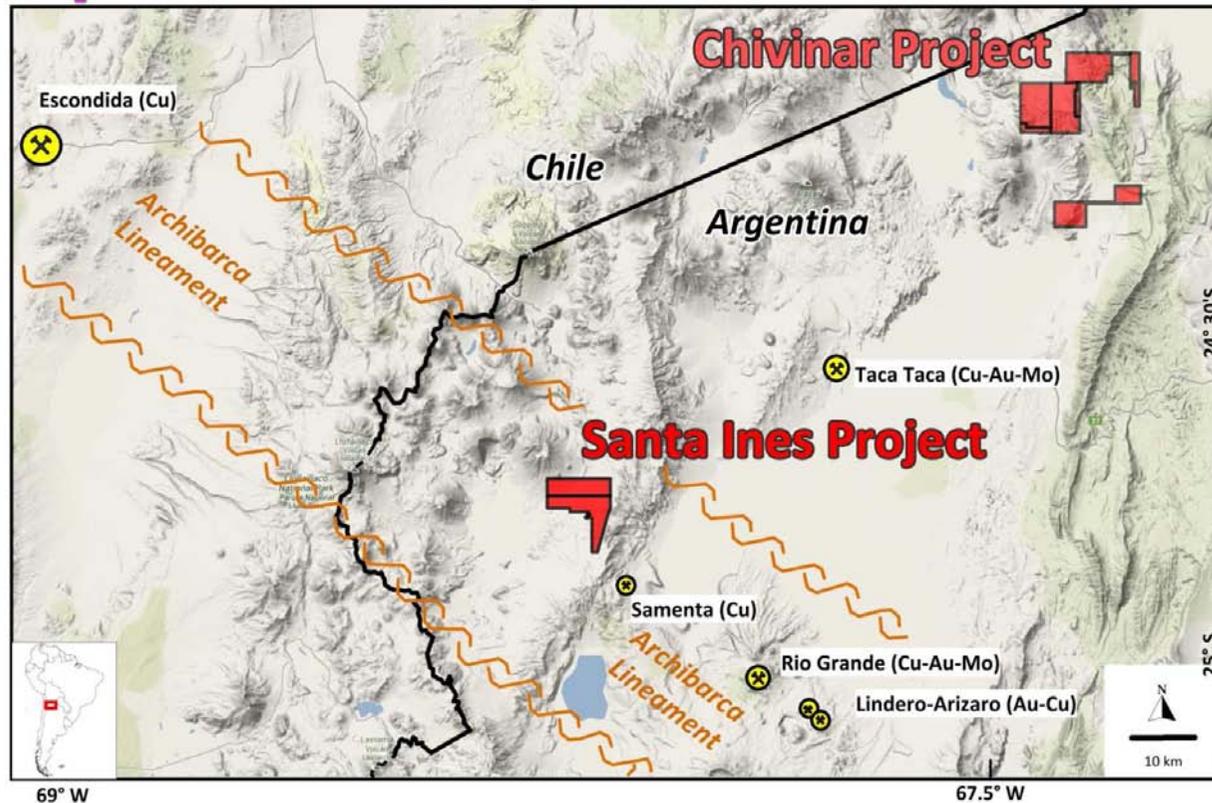
- ✓ **Large tenement holdings** – significant terrain, promising geology
- ✓ **Successful exploration methodology** - Massive sulphides identified within prospective rocks
- ✓ **Momentum building** - Ambitious target generation and drill test focus for 2014
- ✓ **First-mover advantage** - Unlocking access to previously untested ground
- ✓ **Technical innovation** – Fixed wing high-moment airborne electromagnetic survey for accelerated targeting
- ✓ **Cost-effective exploration** – company-owned and operated drilling equipment

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# Salta Province (Argentina)

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Salta Projects : Archibarca Structural Corridor



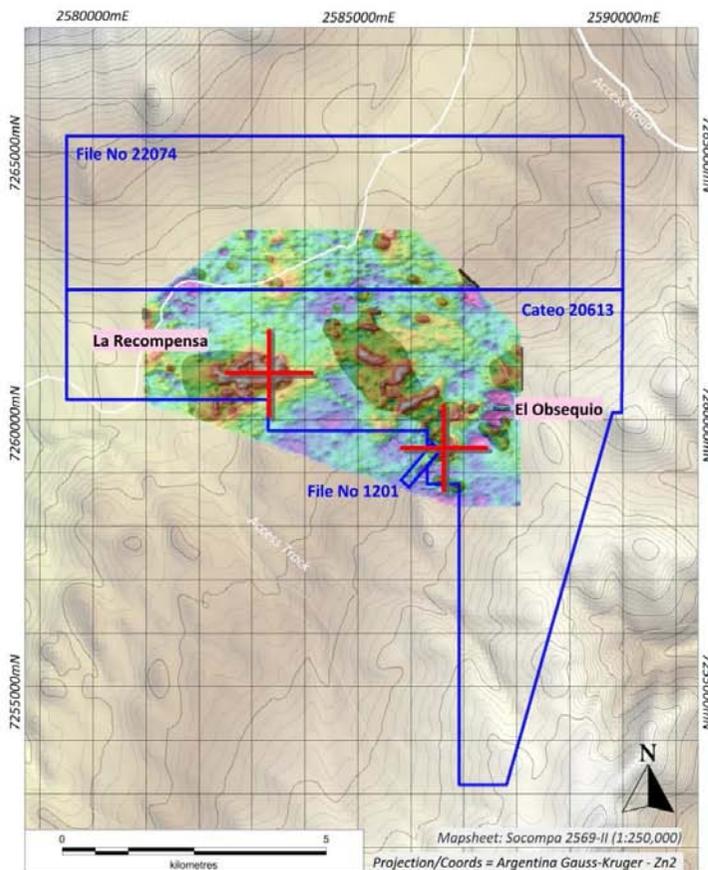
## Overview

- Two projects, 100% owned
- 12 tenements, 400 km<sup>2</sup>
- Mining-friendly province, well regulated
- Strategic location - Andean belt
  - BHP Escondida Cu-Au porphyry deposit 80km to northwest
  - Close to gas pipeline, high-transmission power lines, Salta-Antofagasta railway

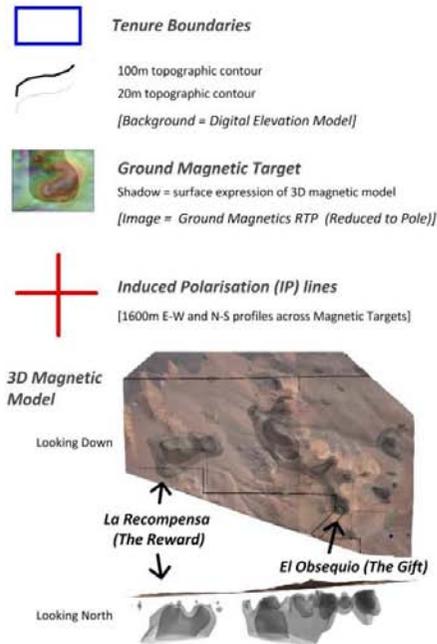
## Targeting

- Cu-Au-Mo porphyry deposits (very high grades evident)
- High-grade epithermal Ag deposits
- Iron ore

# Strong prospect, momentum building



## Santa Ines Project Completed Geophysical Surveying



- Mapping, sampling and geophysics
- Two targets delineated:
  - El Obsequio ('The Gift') - max values Cu 21.7%, Au 0.9g/t, Ag 26.4% at outcrop
  - La Recompensa ('The Reward') - deeper body
- Recently completed IP survey
  - Expect results in June, drill targets identified
- Drilling planned for southern spring

# Financial Snapshot, April 2014

	Apr 2014
Shares on issue	120,437,041
Options on issue	41,158,105
Top 20 shareholders	59.97%
Cash PNN reserves	\$0.57m

	FY13
Revenue from operations	\$0.86m
Exploration expenditure	\$1.73m
Net assets (equity), period end	\$22.8m

## Highlights

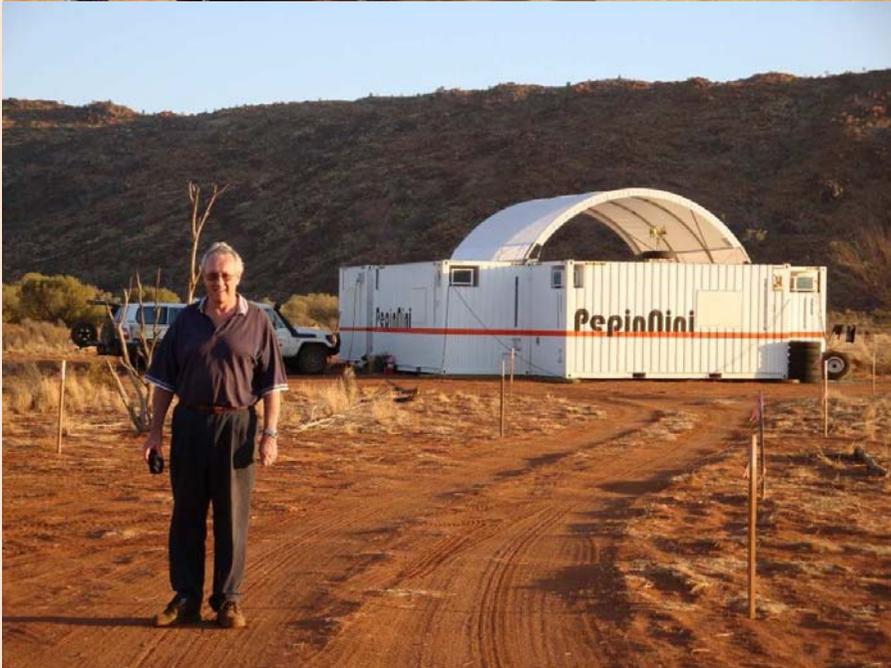
- Cash position
  - \$0.57m reserves
- Entitlements issue underway
  - Seeking to raise up to \$1.53m, 1.9c/share
- Expect exploration spend of \$1.6m FY14
  - Funded from cash reserves and JV contributions

**CSIRO & PNN R&D collaboration -  
\$0.5m for the Musgrave Project**

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*Thank you*



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