



MUSGRAVE PROVINCE PROJECT

**Anangu Pitjantjatjara Yankunytjatjara Lands
South Australia**

ASX: PNN

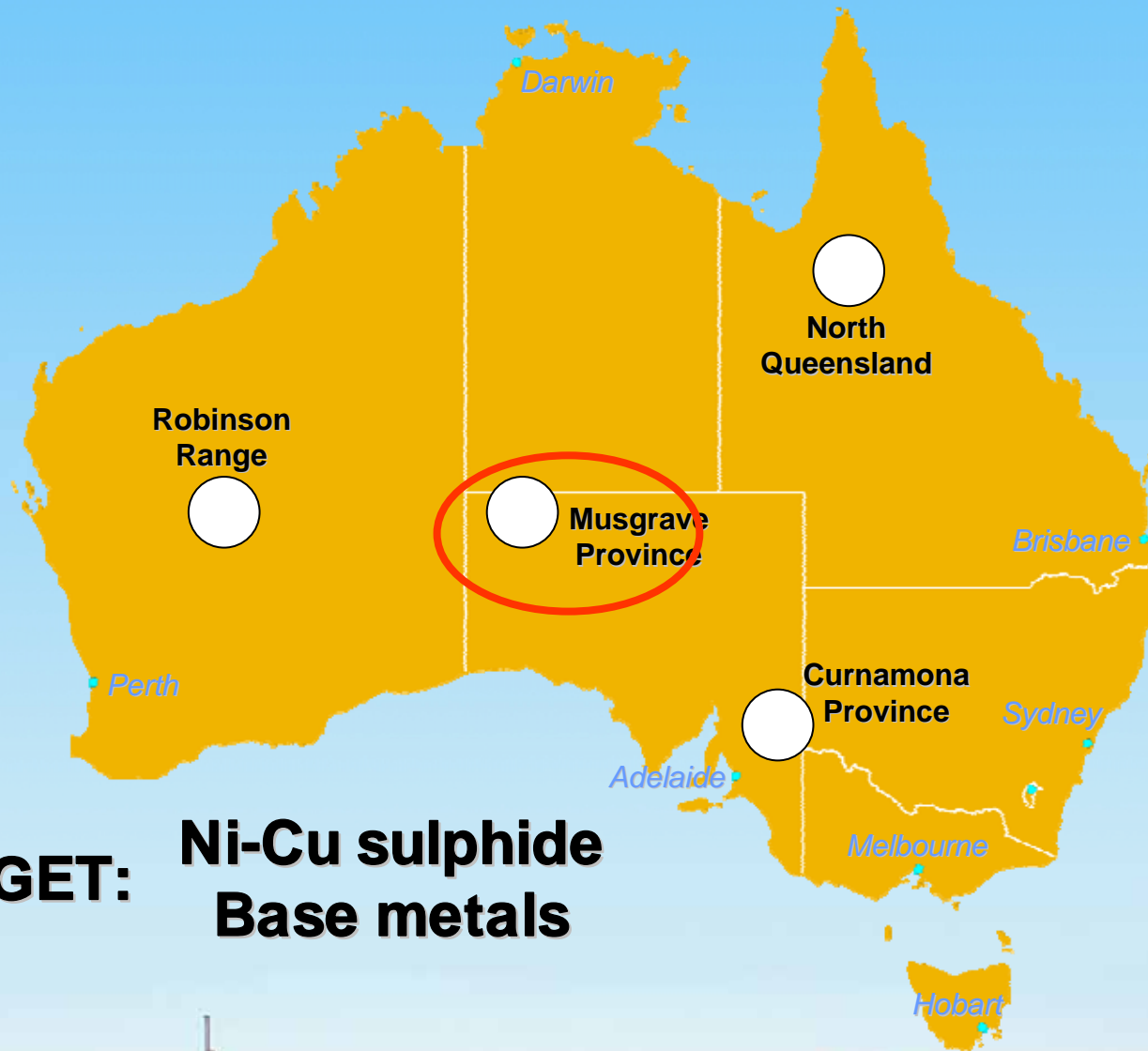
www.pepinnini.com.au

S.A Explorers Conference

27th November, 2009



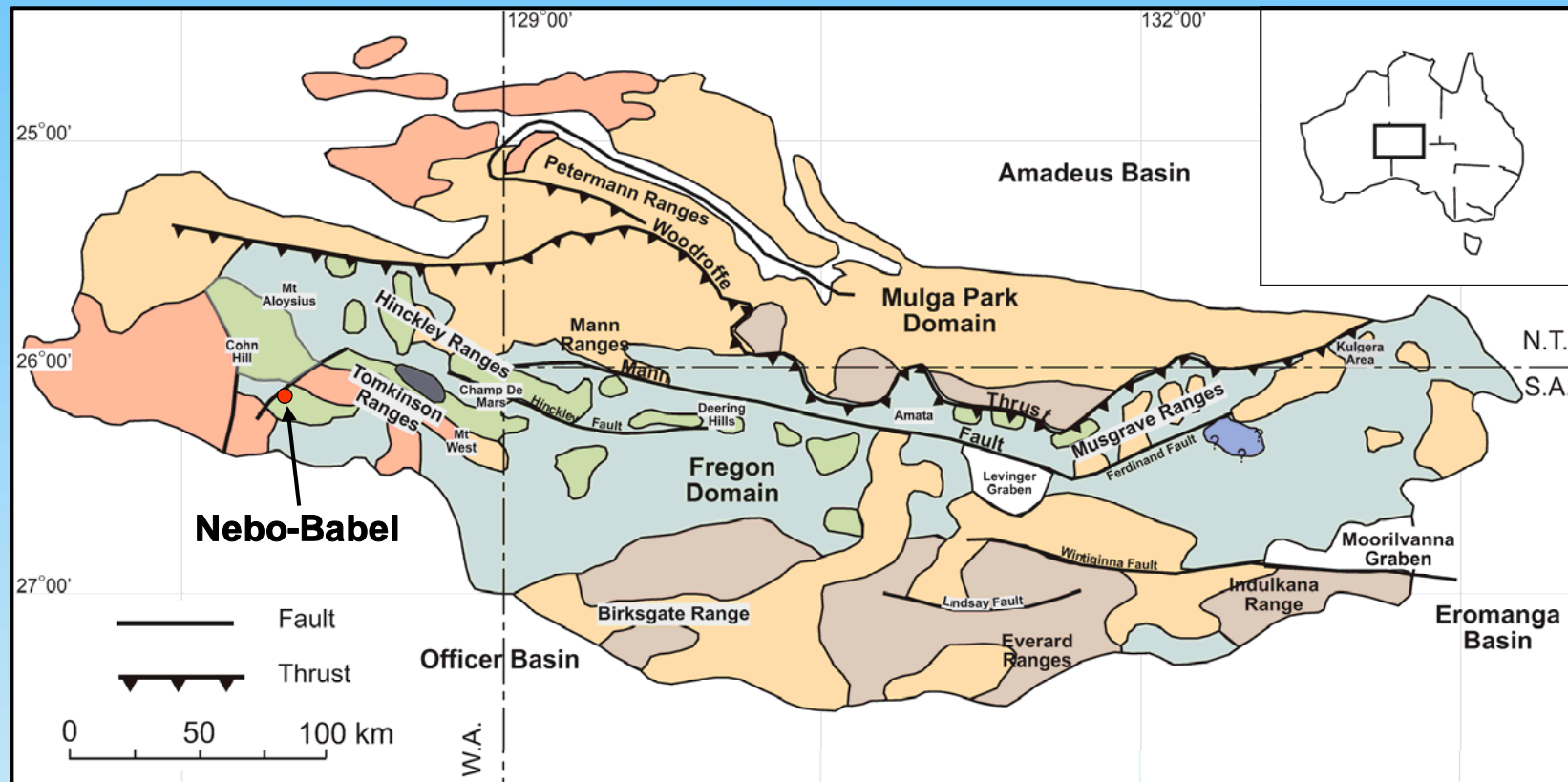
Projects



TARGET: Ni-Cu sulphide
Base metals



Musgrave Province



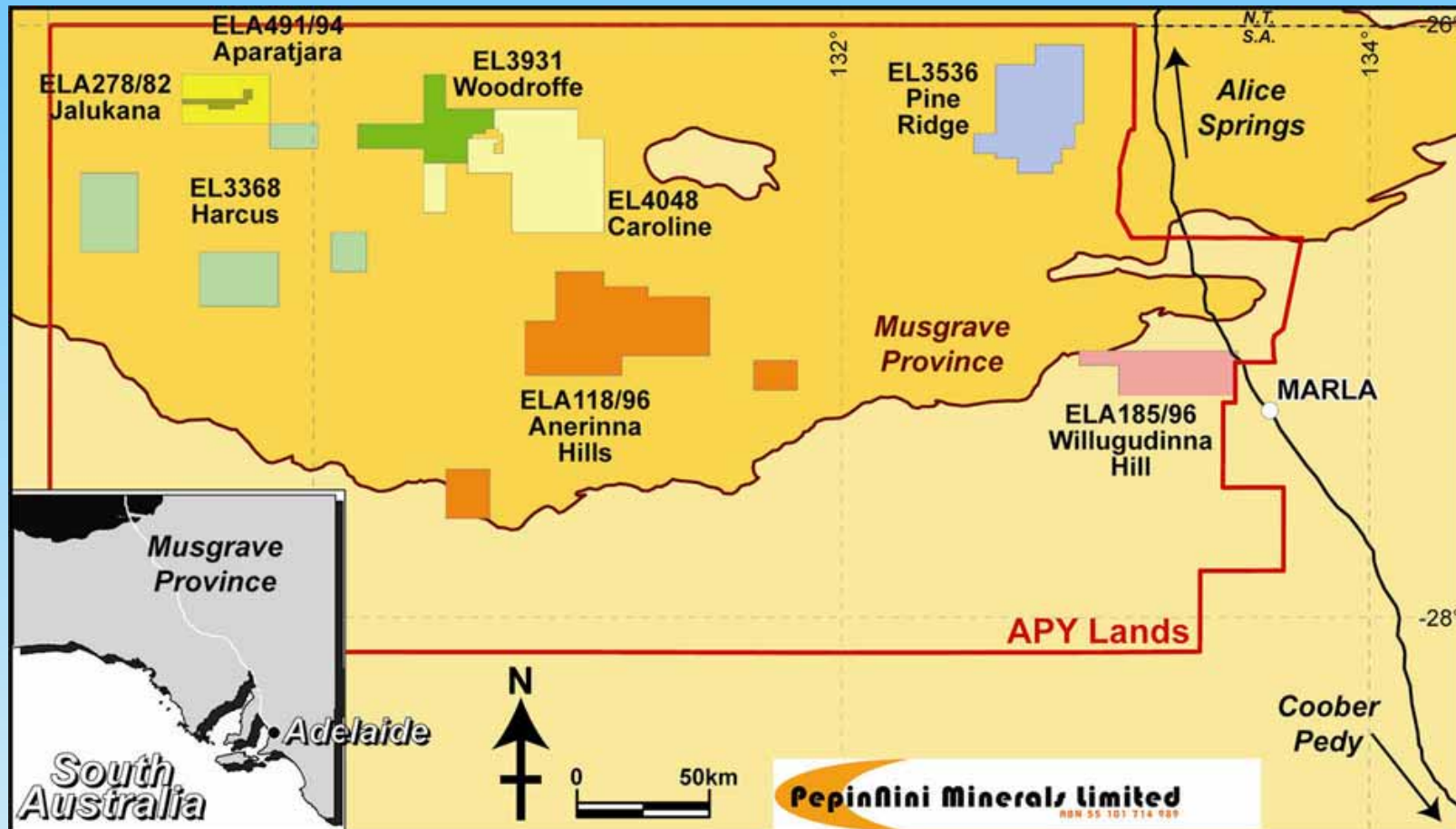
High grade gneissic terrain
Multiple metamorphic & deformational events
Volumetrically significant mafic-ultramafic magmatism
GILES COMPLEX



Musgrave Province Project

GREENFIELDS EXPLORATION

Tenement Position

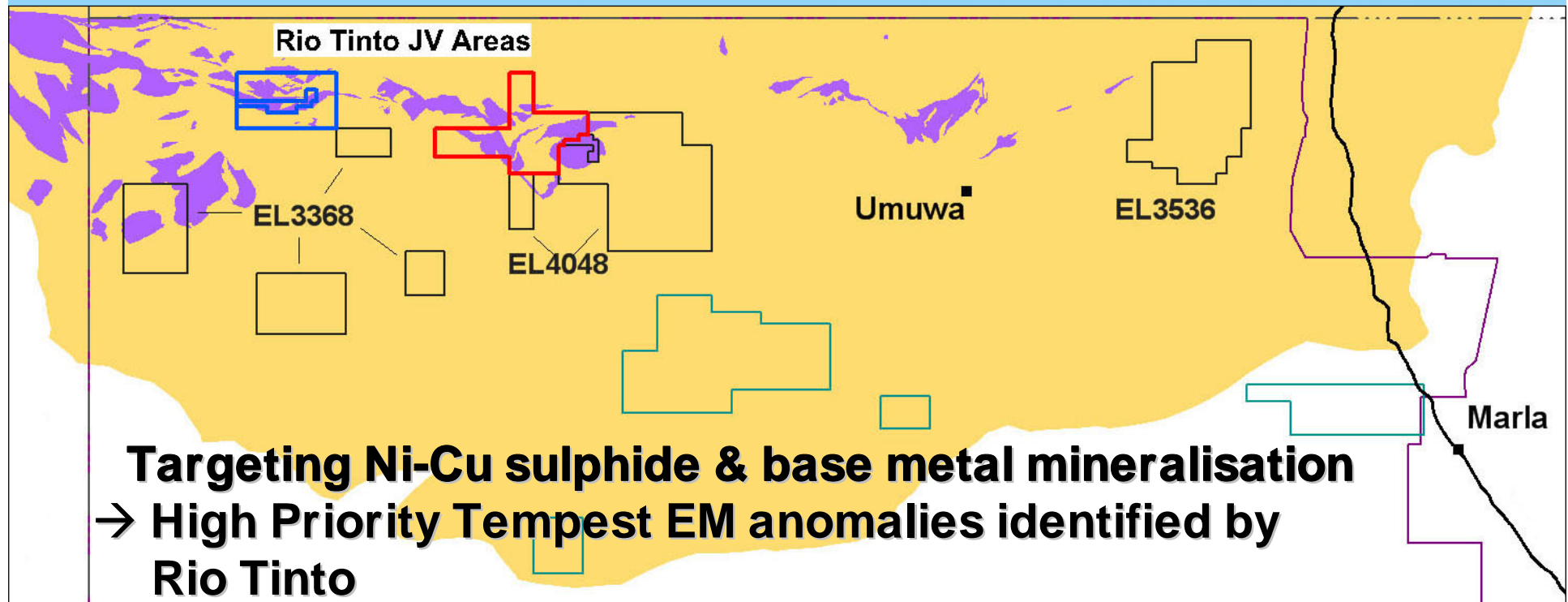


**4 Granted Exploration Licences
4 Exploration Licence Applications
covering 9,525km²**



Rio Tinto Joint Venture

- Three tenements covering 1,382m²
- Expenditure of \$4m over 4 years to earn 51%
- One tenement granted – EL3931 Woodroffe
- Two tenement applications – Jalakana & Aparatjara



Musgrave Province Project

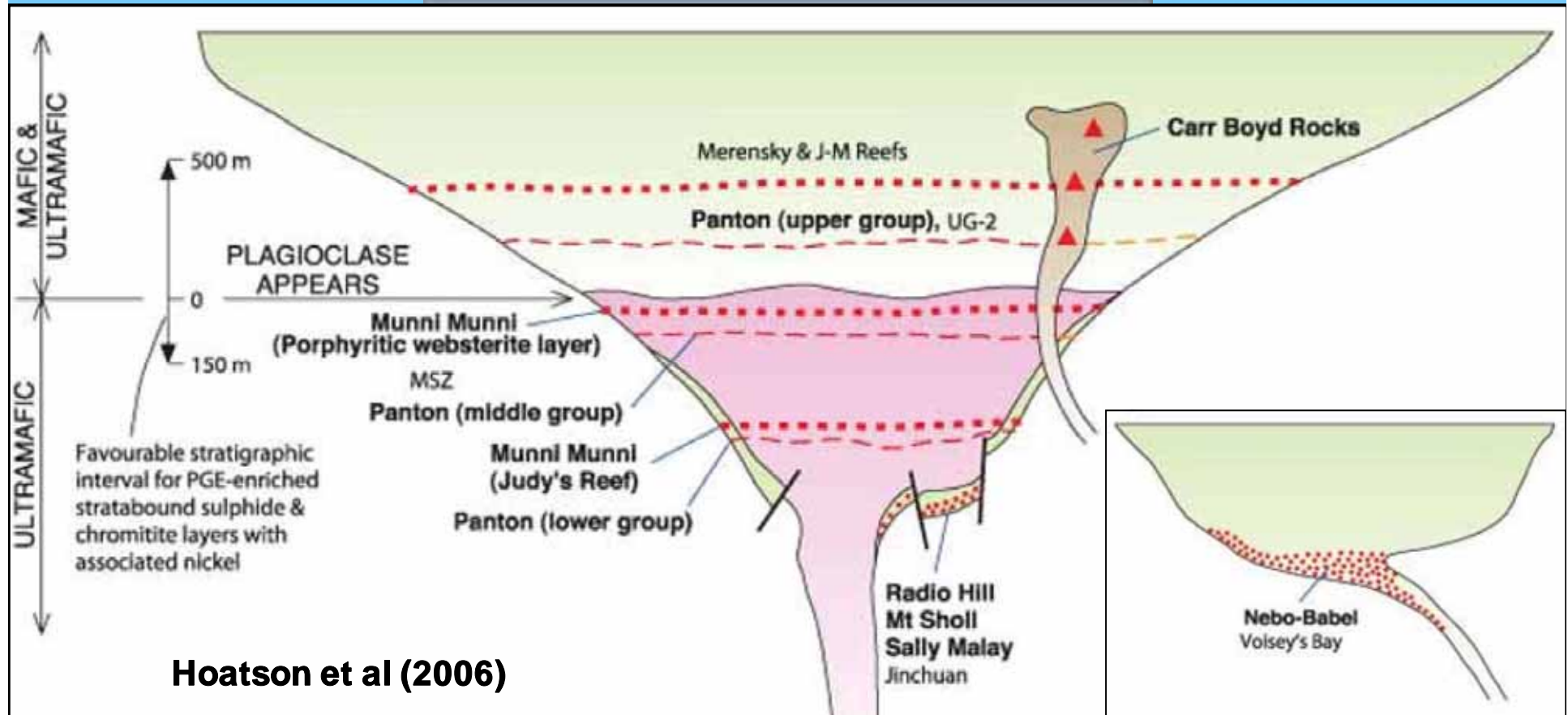
	2006		2007		2008		2009		TOTAL	
	No.	m's	No.	m's	No.	m's	No.	m's	No.	m's
RC	22	3111							22	3111
Vacuum					383	3994.95	1025	9163.7	1408	13158.65
Diamond			9	3462.67	12	4834.22	16	5368.78	37	13665.67
TOTAL	22	3111	9	3462.67	395	8829.17	1041	14532.48	1467	29935.32

\$1.3 million in Assets
Invaluable People
Continual Presence
4 Years of Drilling – 30,000m
Committed

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Pepinini Minerals limited – First Mover Status & Benefits

Mineralisation Model

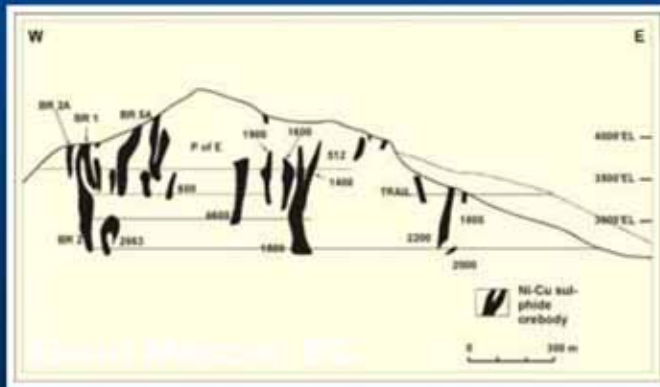


- Orthomagmatic 'tholeiitic' deposits (Ni-Cu sulphide & PGE's)
- Funnel shaped intrusions? Feeders/conduits?



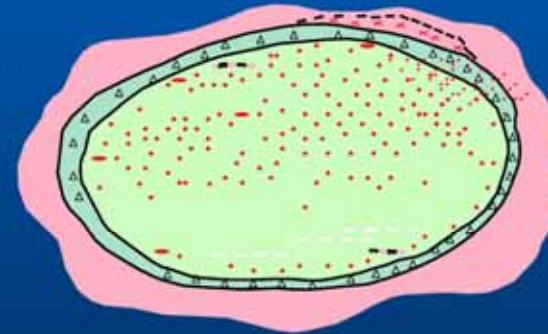
Mineralisation Model

1. Breccia pipes eg Aguablanca, Carr Boyd



2. Chonoliths or conduits eg Noril'sk, Nebo-Babel

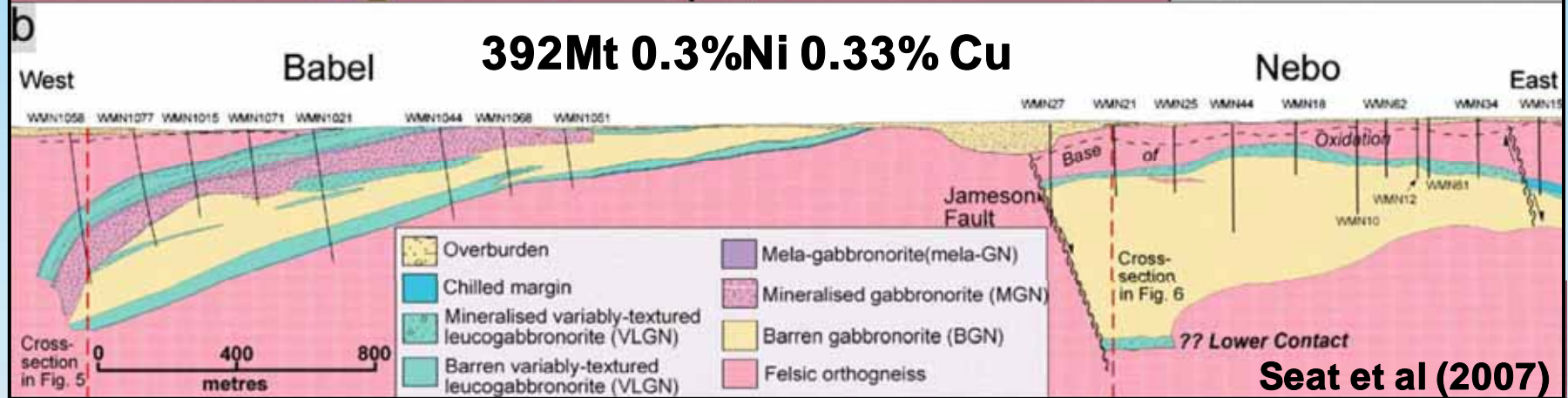
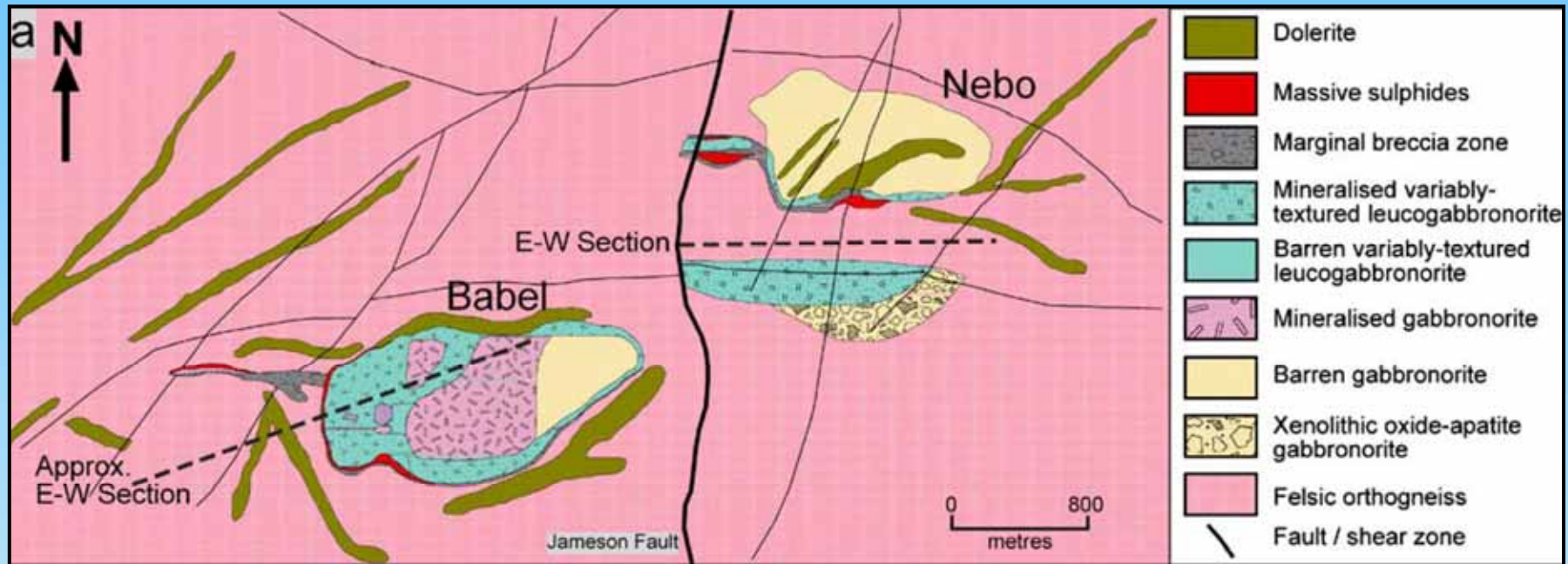
- Irregular shaped
- Complex relationships with country rock
- sub-solidus 'extrusion'?
- tectonically emplaced?



Beresford 2009



Mineralisation Model



The Continuum of Ni-Cu Sulphide Deposits

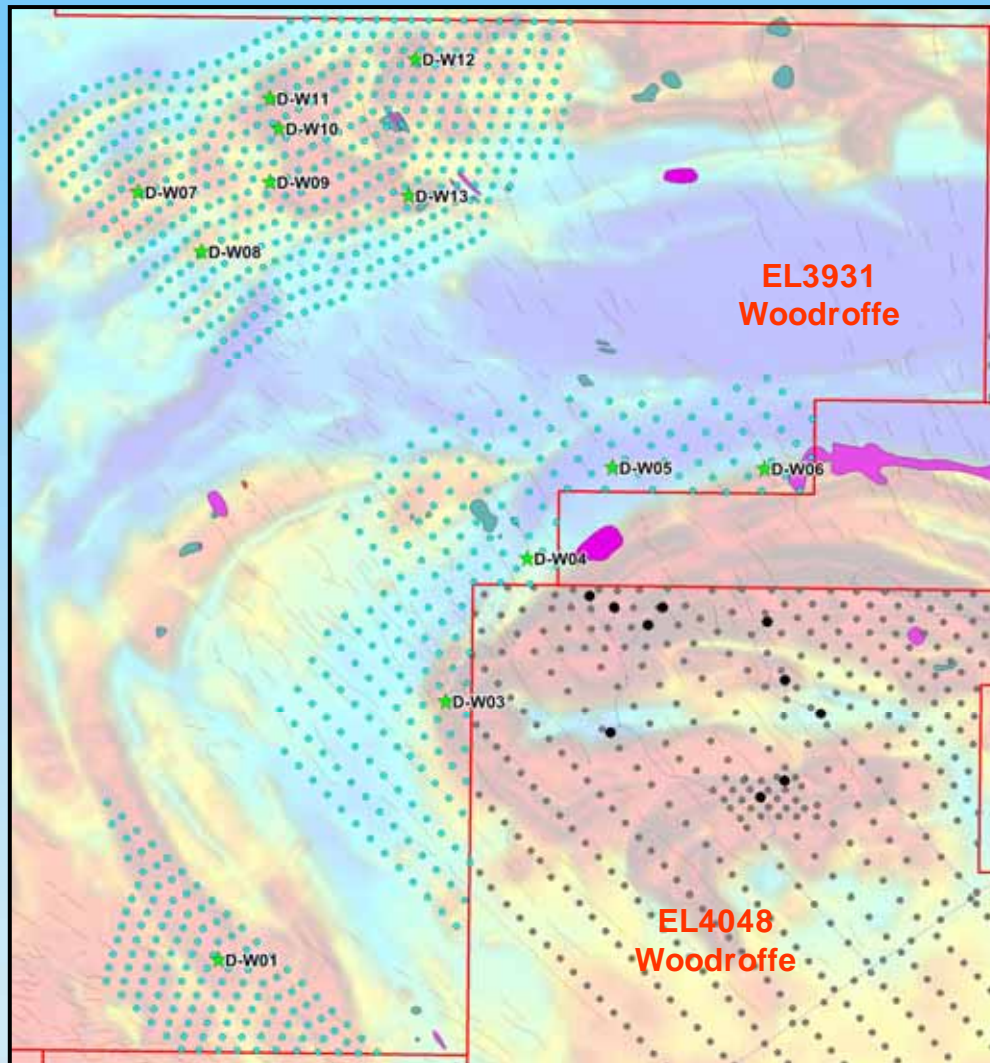


Requires different exploration techniques for different styles

TARGET CONTEXT



EL3931 Woodroffe Clearance



Cleared for exploration:
12 diamond boreholes
811 vacuum boreholes
→ **Testing Tempest**
EM, gravity & magnetic anomalies



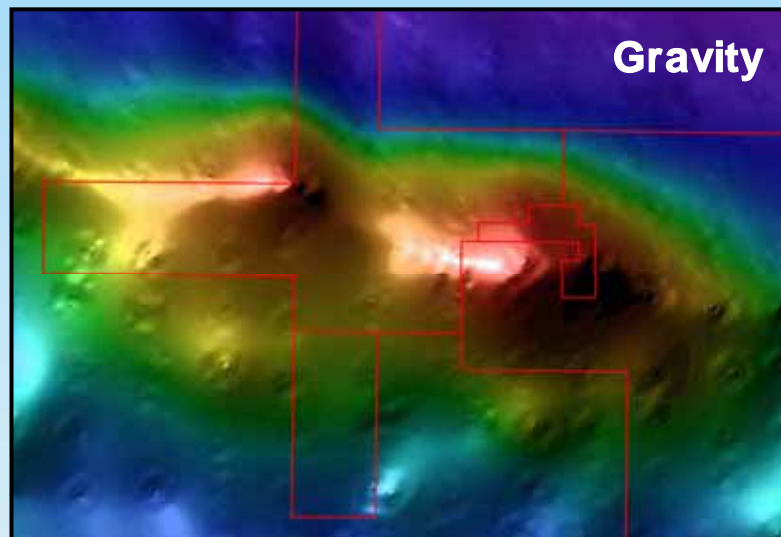
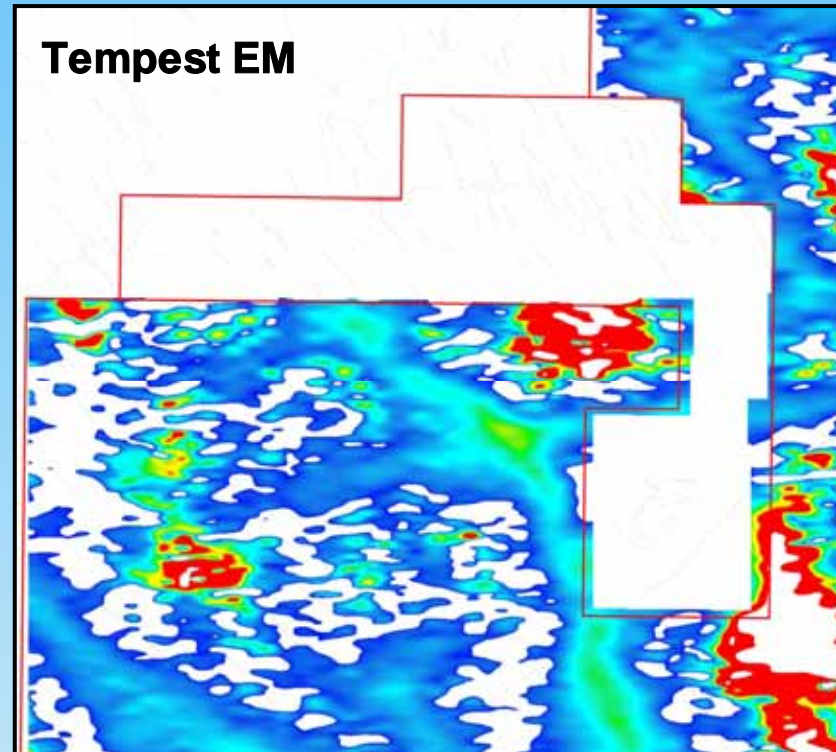
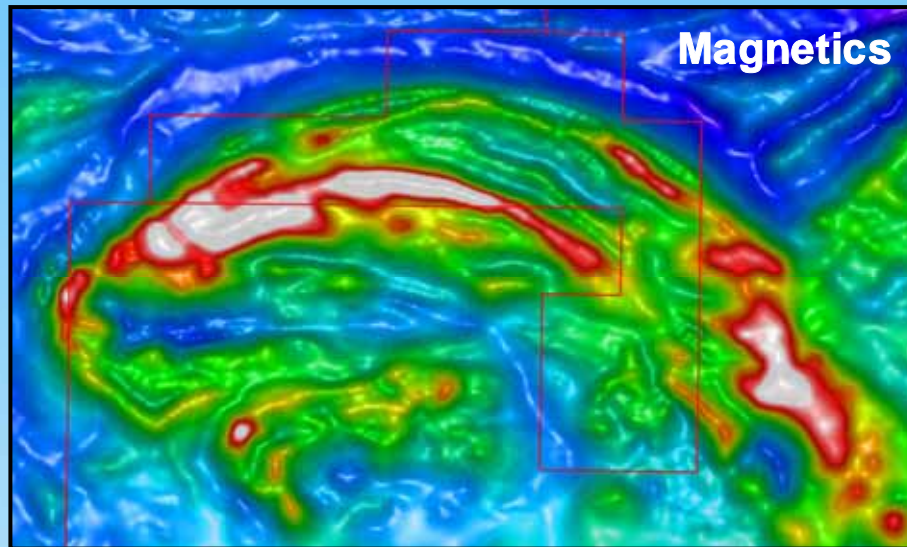
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Exploration Strategy

- **Geophysics**
- **Vacuum Drilling**
- **Diamond Drilling**



Airborne Geophysics



- Regional datasets
- First-pass reconnaissance
- Inherently coarse and noisy
- Requires ground truthing



Vacuum Drilling



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Vacuum Drilling



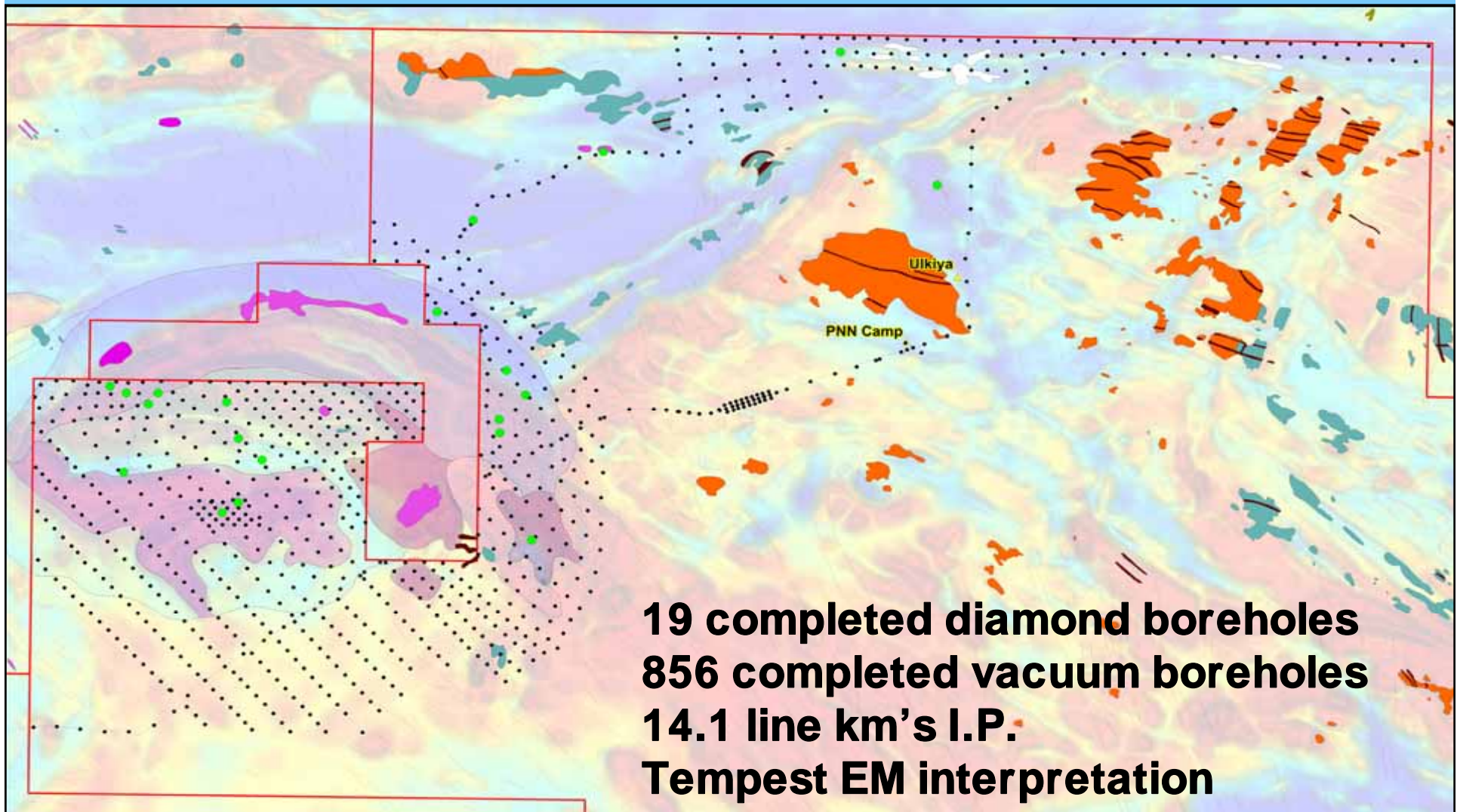
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Exploration Highlights

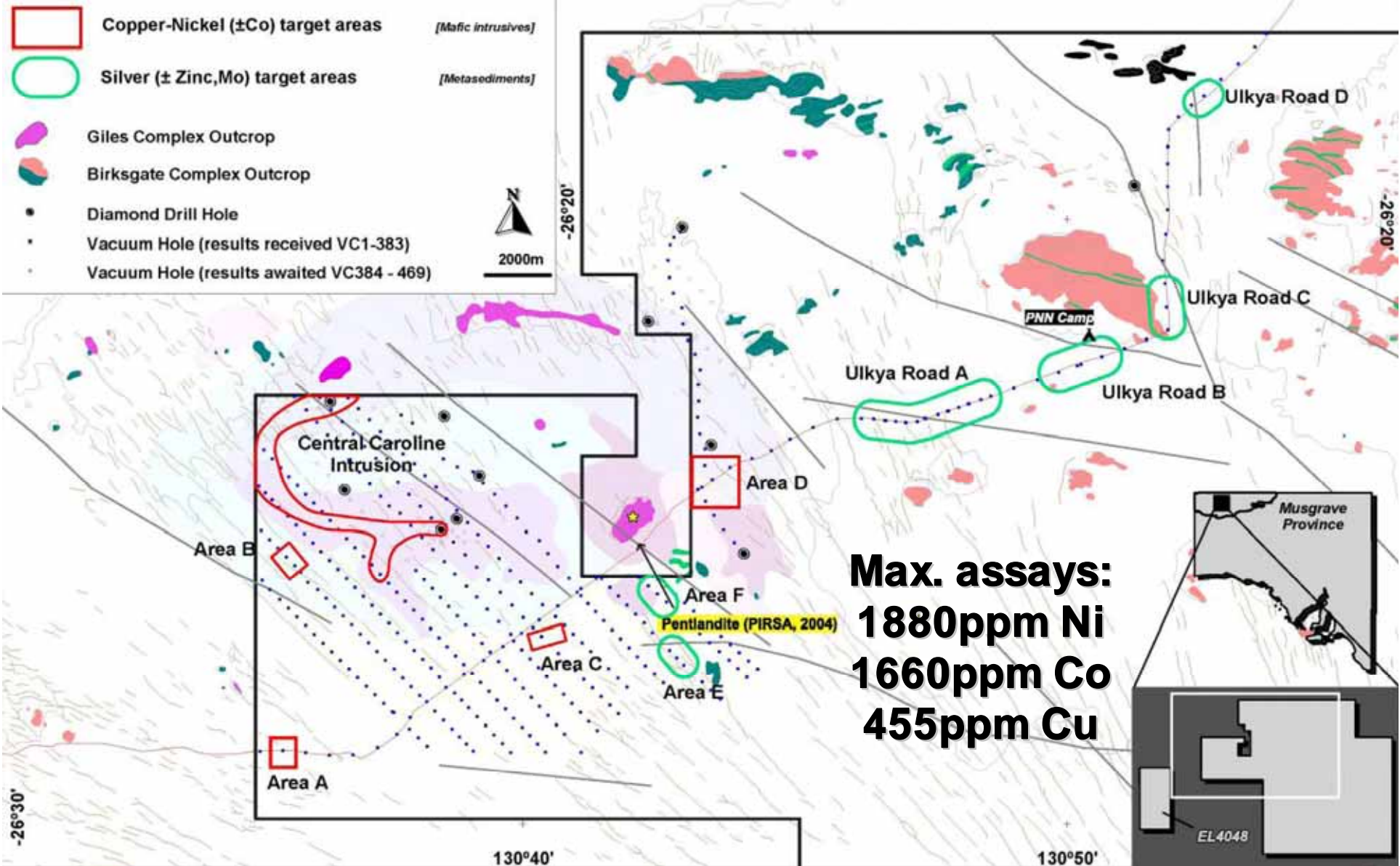
EL4048 Mt Caroline



EL4048 Mt Caroline

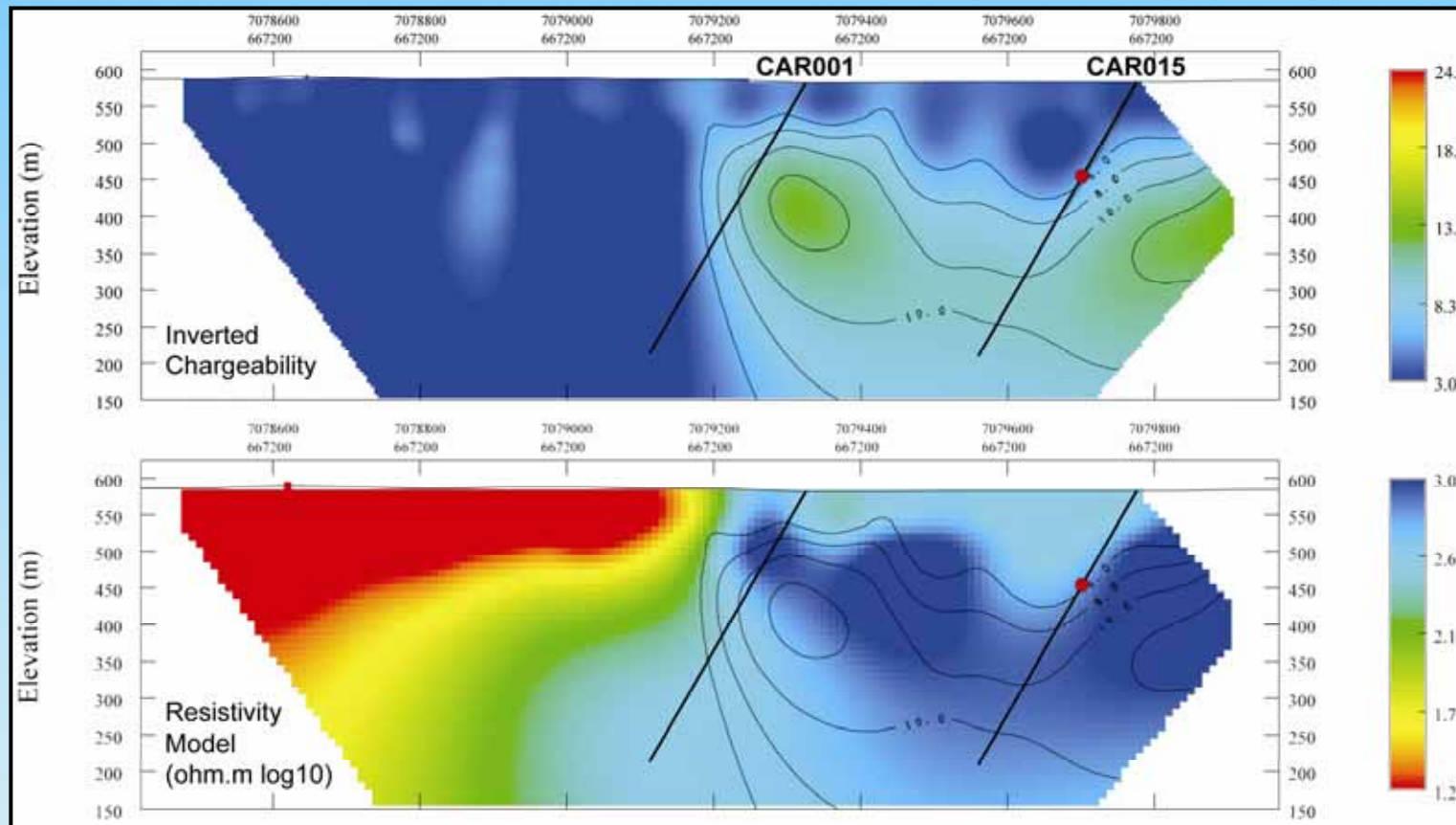


EL4048 Mt Caroline Vacuum Drilling



EL4048 Mt Caroline Diamond Drilling

Induced Polarisation geophysical survey – 7 lines (14.1 km)
Coincident EM & magnetic anomalies – follow up drilling

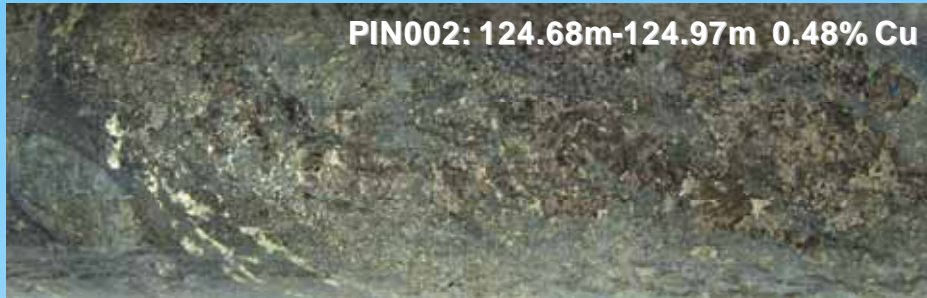


→ Further follow up drilling of other anomalies in tenement



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EL3535 Pine Ridge



Mineralised migmatitic gneiss and metabasites rocks (Birksgate Complex)



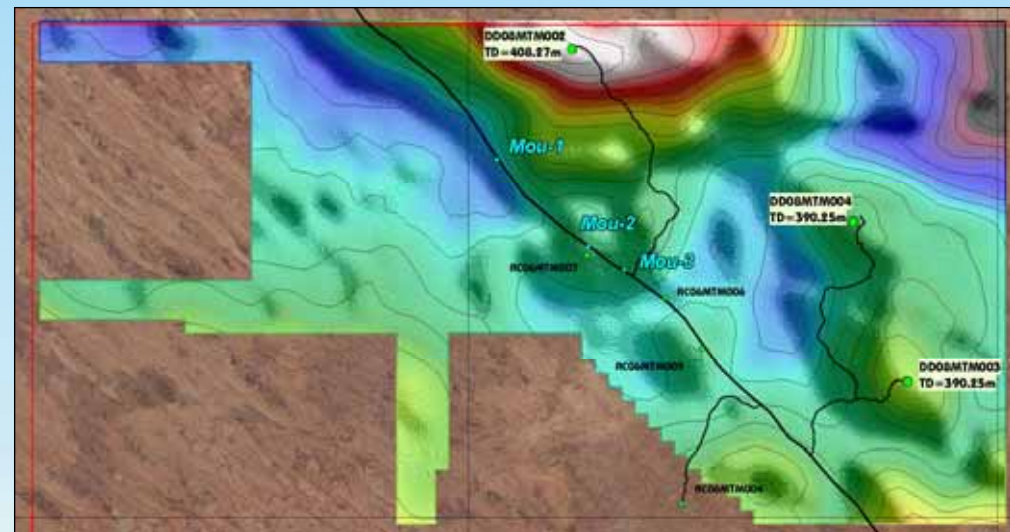
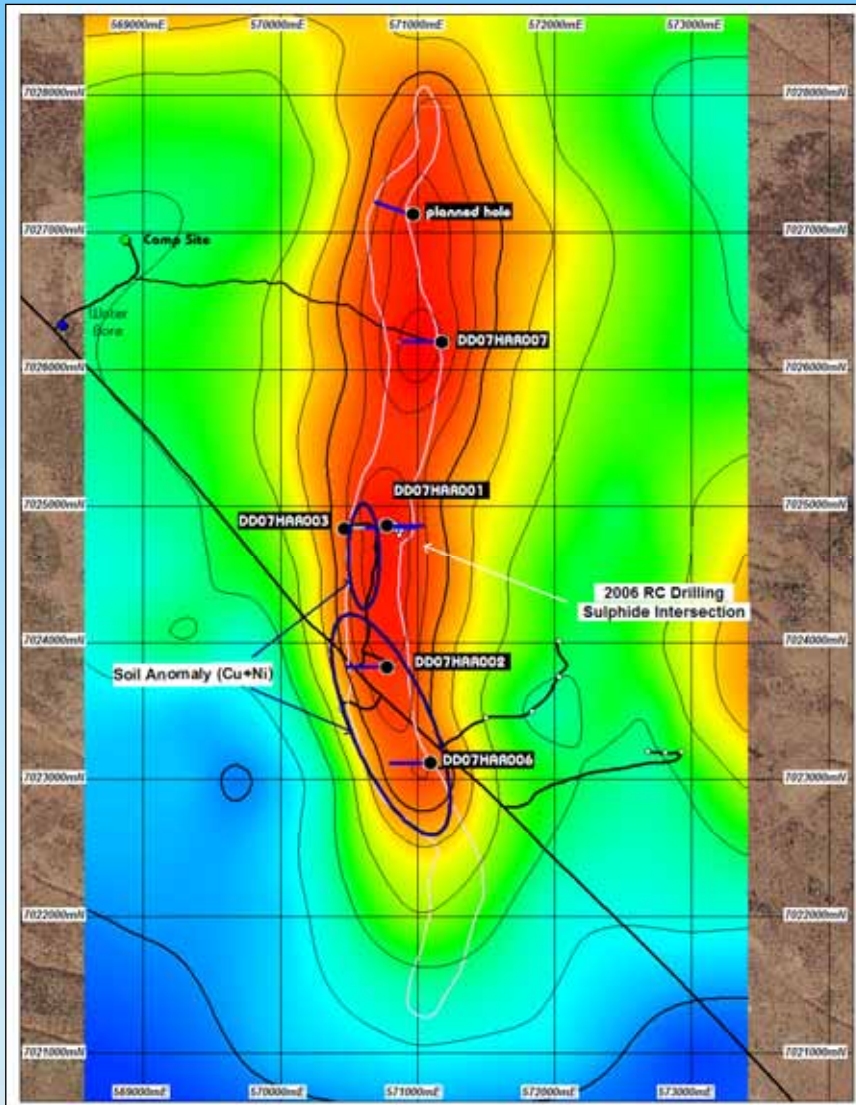
Serpentinitised olivine-bearing ultramafic rocks (Giles Complex?)



**Garnetites & calcsilicates
→ Broken Hill-type?**



Joint Venture Opportunities



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Thank You



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