



# Shareholder Update

**September 2016**

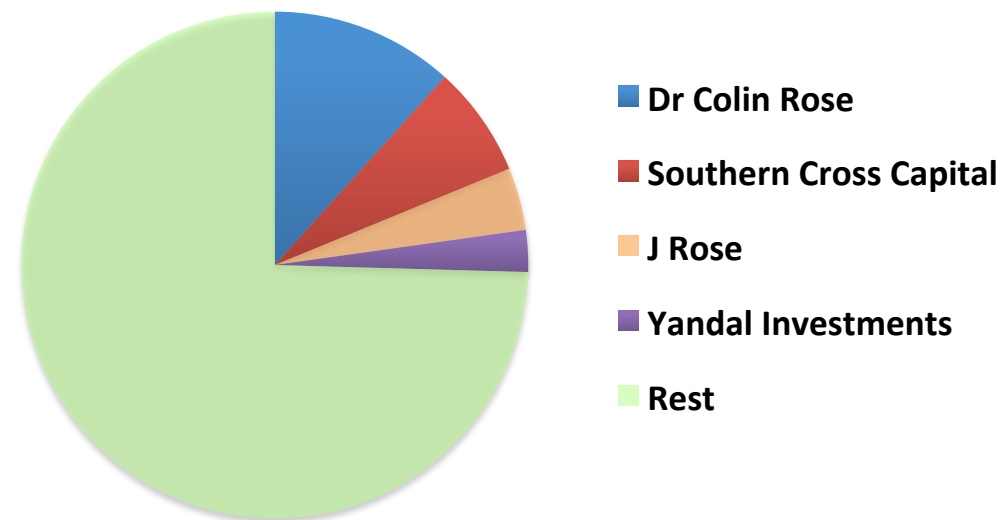
## Capital Structure

<b>Shares on issue</b>	413m
<b>Listed options</b>	0
<b>Unlisted options</b>	~ 3 m
<b>Market Cap</b> (at 1.6 cents per share)	~ \$6.6 m
<b>Cash</b> (as at 30 June 2016)	\$630,000
<b>Zero Debt</b>	

## New Board & Management

<b>Chairman</b> (non-exec)	Dr Colin Rose
<b>Managing Director / CoSec</b>	David Williams
<b>Technical Director</b> (non-exec)	Peter Thompson

## Largest Shareholders



## Top Shareholders

<b>Top 20</b>	~ 46%
<b>Top 50</b>	~ 58%
<b>Top 100</b>	~ 72%

Marmota runs the entire non-exec Board for a cash cost of \$17,001 p.a.

Lower costs

Less dilution

More exploration

# Multi-commodity exposure

## Copper



- Exploration Target (June 2016) <sup>1,2</sup>:

1 to 4 million tonnes at average grade between 1.0% and 1.5% copper

## Gold



- Seeking next Challenger

Over 5,000 km<sup>2</sup> of lightly explored ground around Challenger

## Uranium



- 5.4 million pounds U<sub>3</sub>O<sub>8</sub> Inferred Resource <sup>3</sup>
- Exploration Target: 22-33 million pounds U<sub>3</sub>O<sub>8</sub> <sup>1,4</sup>

1. Exploration targets are partly conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain that further exploration will result in the estimation of a Mineral Resource.

2. See MEU:ASX 16 June 2016

3. See MEU:ASX 18 July 2013

4. See MEU:ASX 9 July 2012

**GOLD**

**Seeking the next Challenger ...**

# About Challenger

- Opened in 2002 as an open-pit mine
- Now **high-grade** narrow-vein underground
- At opening: one of Australia's most profitable gold mines <sup>1</sup>
- **Over 1 million ounces of gold** already produced<sup>2</sup> (A\$1.7 billion at current prices)
- Discovered by drilling calcrete gold anomalies

<sup>1</sup> cf. Southern Gold Annual Report 2009 p. 11

<sup>2</sup> Kingsgate Consolidated Limited: ASX Release dated 26 November 2014



# Our goal: Find the next Challenger ...

## Step 1: Consolidate

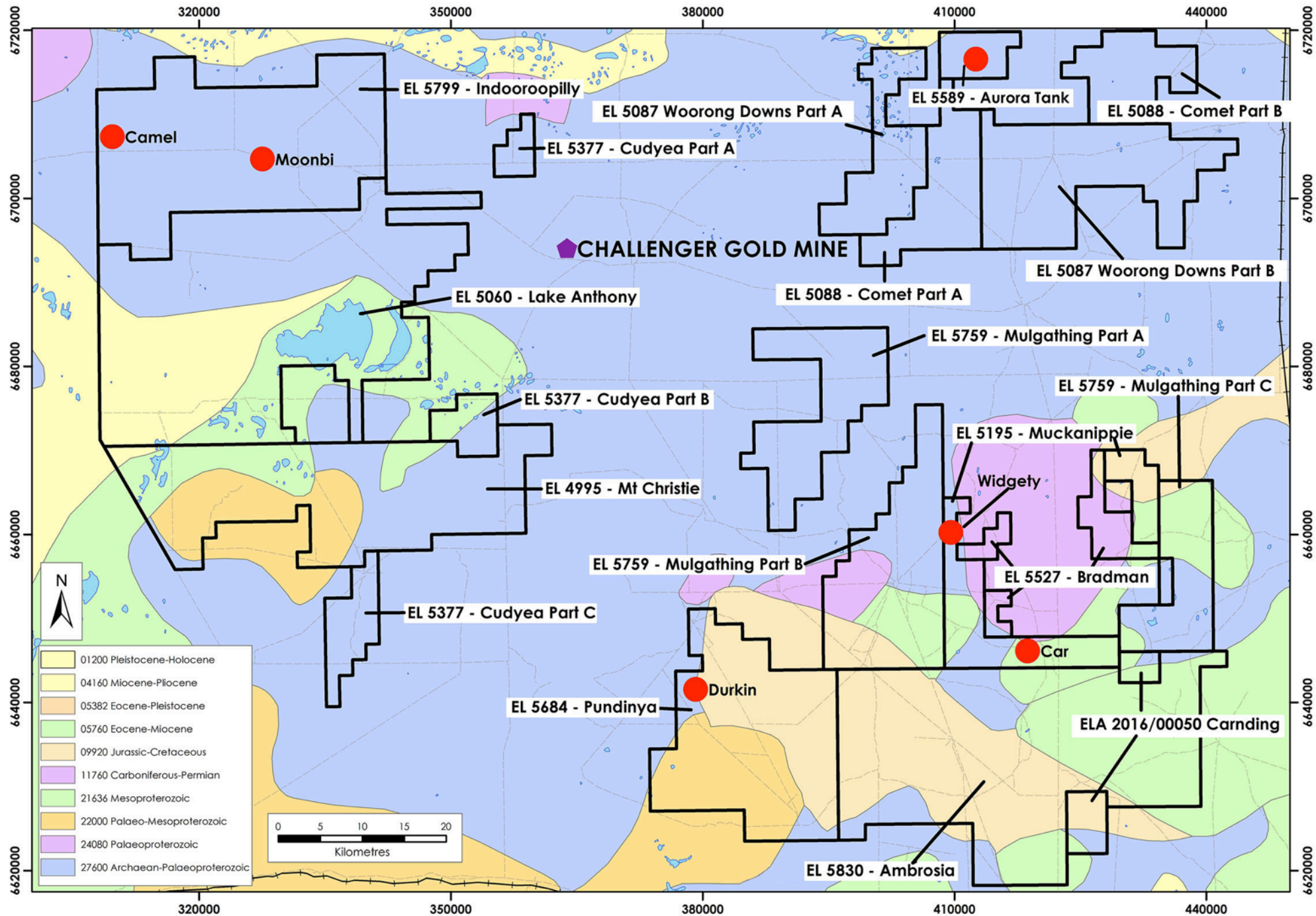
Marmota has judiciously been **consolidating and expanding** our

**DOMINANT** tenement holding around Challenger

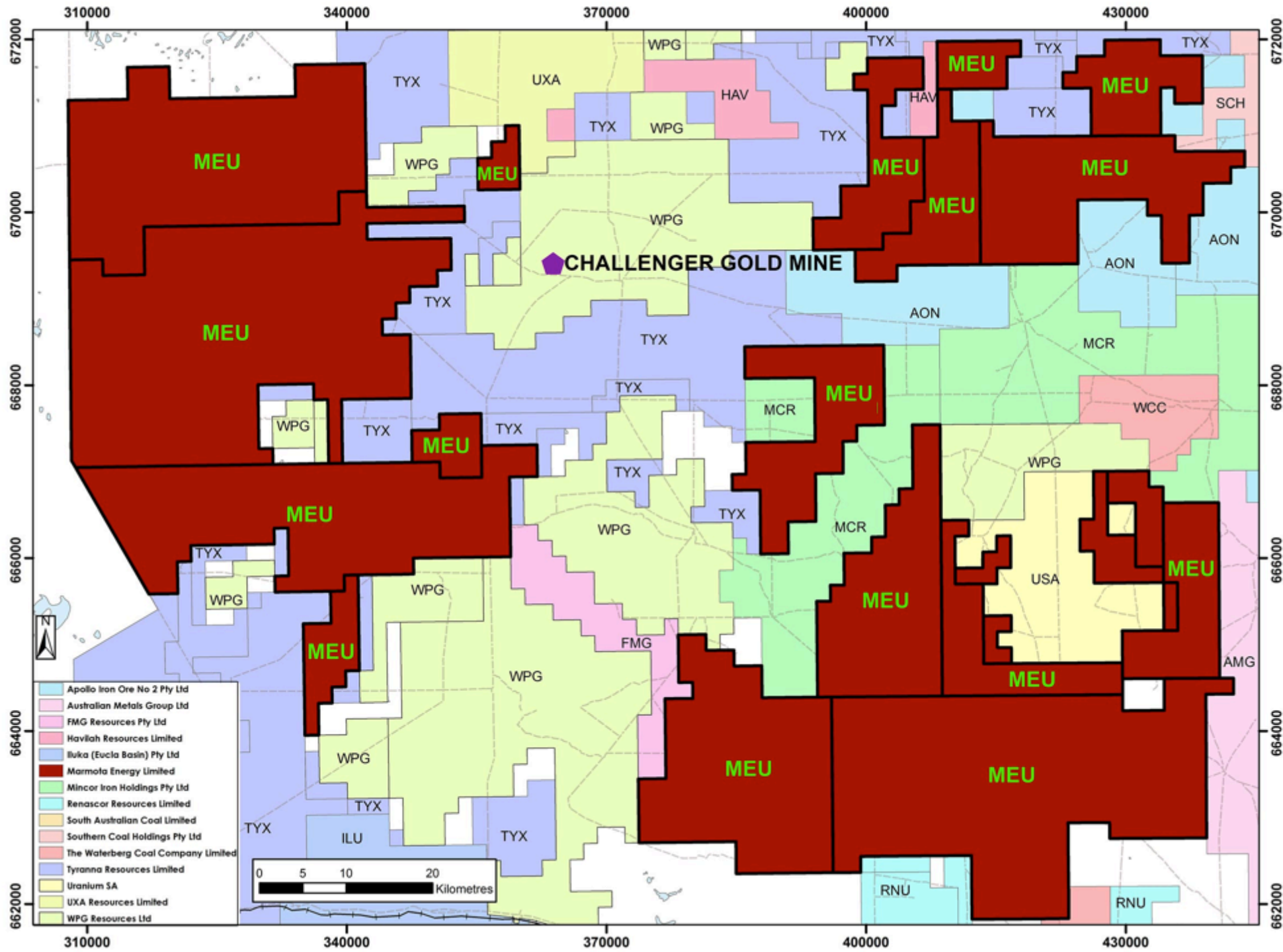
- **See diagrams:** next 2 pages
- MEU tenements now cover over **5,000 km<sup>2</sup>** of highly prospective ground around the Challenger gold mine



MEU  
Tenements  
around  
Challenger



# MEU, Challenger and Neighbours





# Our goal: Find the next Challenger ...

## Step 2: Bring in the geo who found Challenger

In March, we were delighted to bring in Dr Kevin Wills ... the geologist who designed the programs that discovered Challenger ...

... to head up Marmota's new exploration team.

# Our goal: Find the next Challenger ...

## Step 3: Release the Potential

Marmota's tenements are:

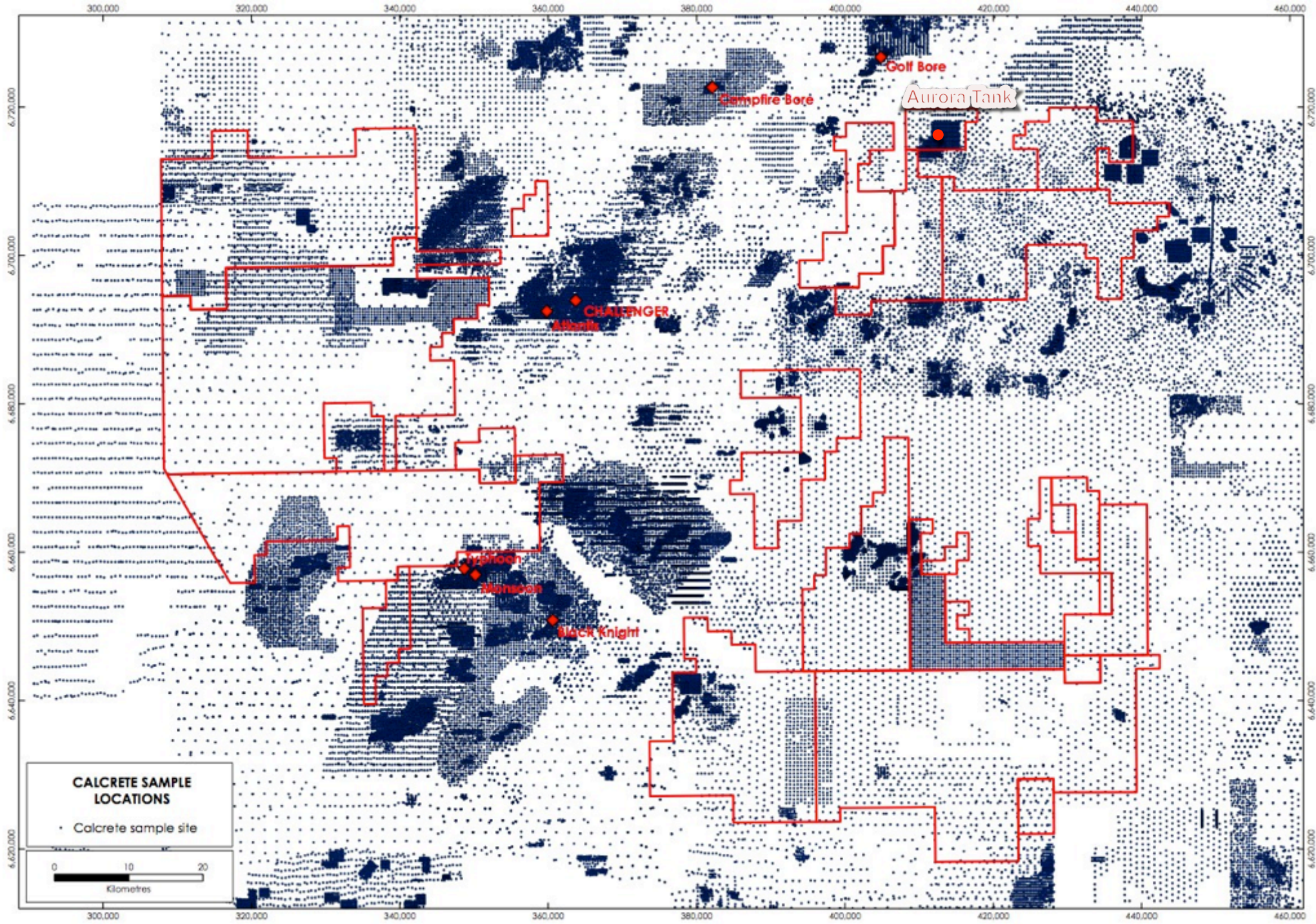
- **Significantly underexplored** = more potential  
(not old ground that has already been overworked): see next diagram
- Woomera prohibited area: desirable area of exploration focus <sup>1</sup>
- Highly **prospective** geology
  - Christie Mulgathing mobile belt
  - Similarities to WA gold fields
  - Significantly underdrilled in comparison to WA goldfields

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<sup>1</sup> Bloomberg (19 June 2015): [Bombed, Blasted, Nuked: Outback may yield \\$27 billion in minerals](http://www.bloomberg.com/news/articles/2015-06-19/riches-buried-below-rocket-range-draw-miners-seeking-27-billion),  
<http://www.bloomberg.com/news/articles/2015-06-19/riches-buried-below-rocket-range-draw-miners-seeking-27-billion>



Calcrete  
sampling  
in the  
Gawler  
Craton





**We have only just started with the NEW exploration team...**

**But since March, we have already identified ...**

**7**

**new anomalous gold-in-calcrete zones**

**And, so far,  
these ones are  
all reproducible**

Marmota is double-checking all gold-in-calcrete anomalies via infill sampling



# The best happens undercover

Most of Marmota's Gawler Craton ground is blanketed by a **thin veneer of residual or transported surface cover**.

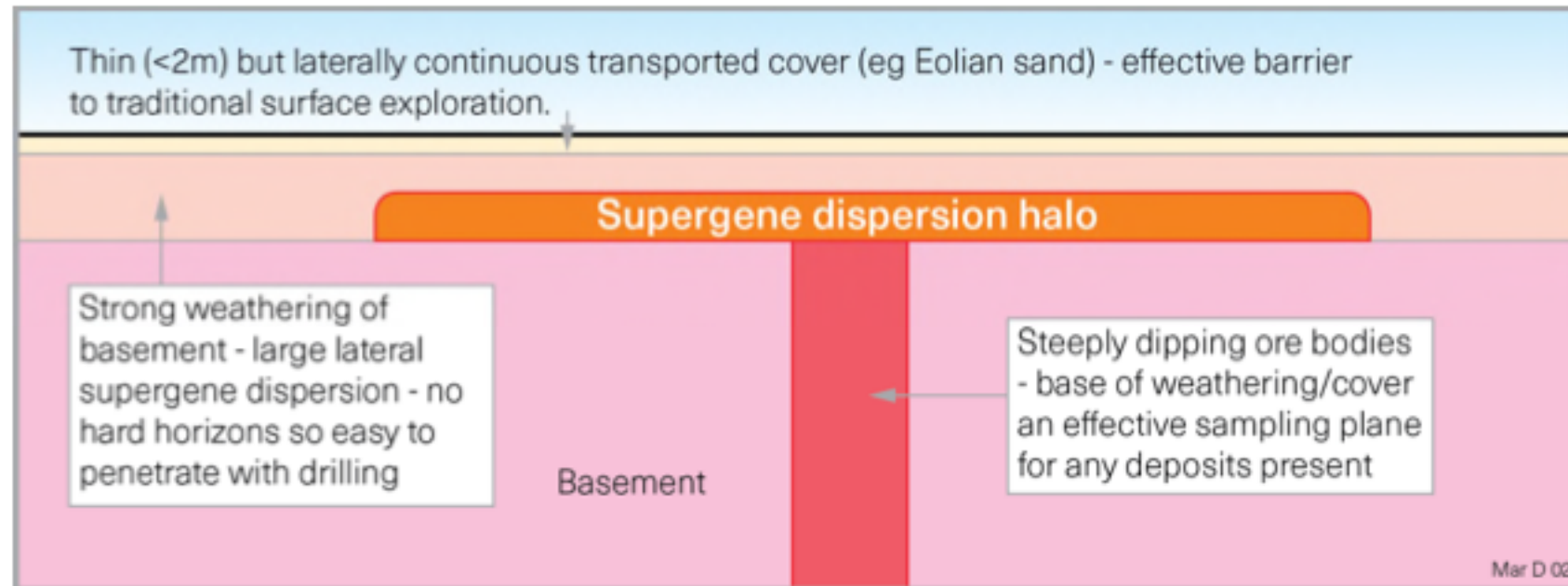
This is an **advantage** because:

- It means the old-timers / prospectors would not have been able to find whatever riches may be lying underneath
- Thin layer of soft cover = cheap to drill

# Hronsky's Perfect Under-cover Exploration Scenario

*“ One of the most attractive search spaces has a **thin veneer of cover** overlying a zone of supergene weathering which penetrates basement. ”*

Jon Hronsky <sup>1</sup>



After Jon Hronsky (2016)

## The perfect under-cover exploration scenario

<sup>1</sup> Hronsky, Jon (2016), from presentation at: *Australian Earth Sciences Convention*, Adelaide, 27–30 June 2016

# Hronsky's Perfect Under-cover Exploration Scenario ...

Marmota's Gawler Craton scenario is *even better*, because over and above Hronsky's 'perfect' scenario of:

1. Thin veneer of cover
2. Strongly weathered basement without hard horizons (easy to drill)
3. Large secondary dispersion haloes overlying mineralisation

... our ground additionally has:

wide-spread near surface calcrete

... which helps detect buried secondary dispersion haloes

... which is a guide to the underlying mineralisation.

# Cover reduces Gold-in-Calcrete Readings (but not the prize)

Smaller numbers can be hiding BIG prizes

Transported cover reduces the grade and size of surface gold-in-calcrete anomalies.

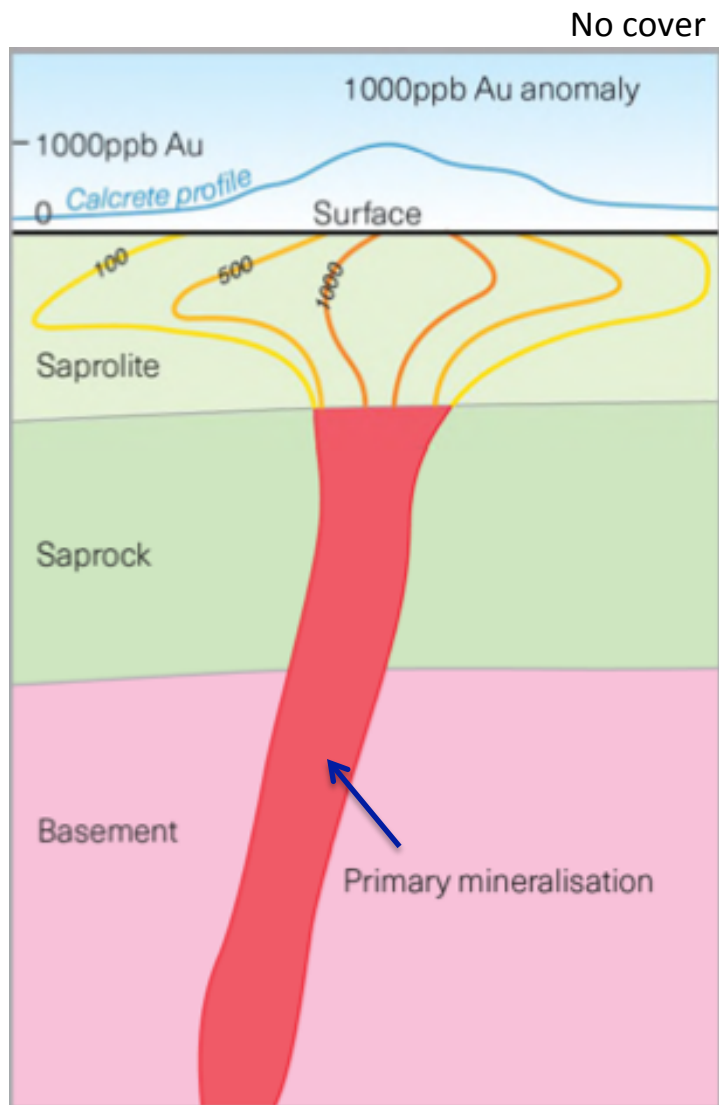
So, if there is a layer of cover:

Even smaller gold-in-calcrete anomaly clusters  
may indicate big prizes underneath

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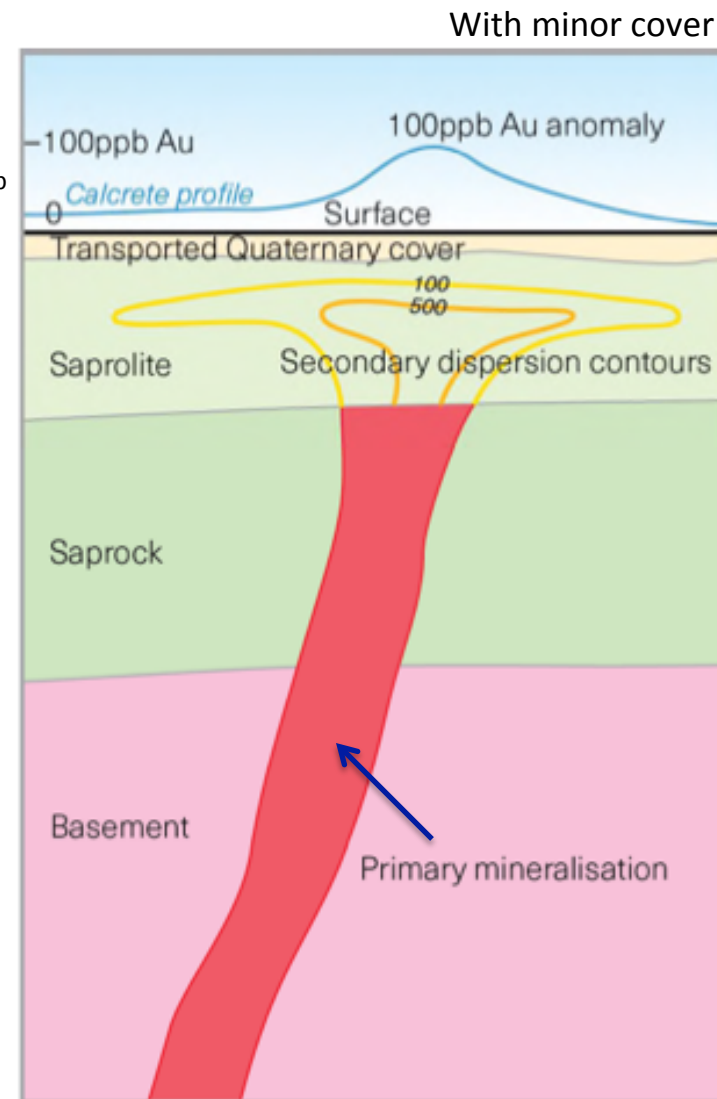
# Gold-in-calcrete anomalies depend on thickness of cover

Gold-in-Calcrete:  
Peak 500 to 1000ppb Au  
but generally 0 to 100ppb



**Type (a)** Weathered basement at/near surface  
Gold present near surface e.g. Challenger

Gold-in-Calcrete:  
Generally 0 to 100ppb

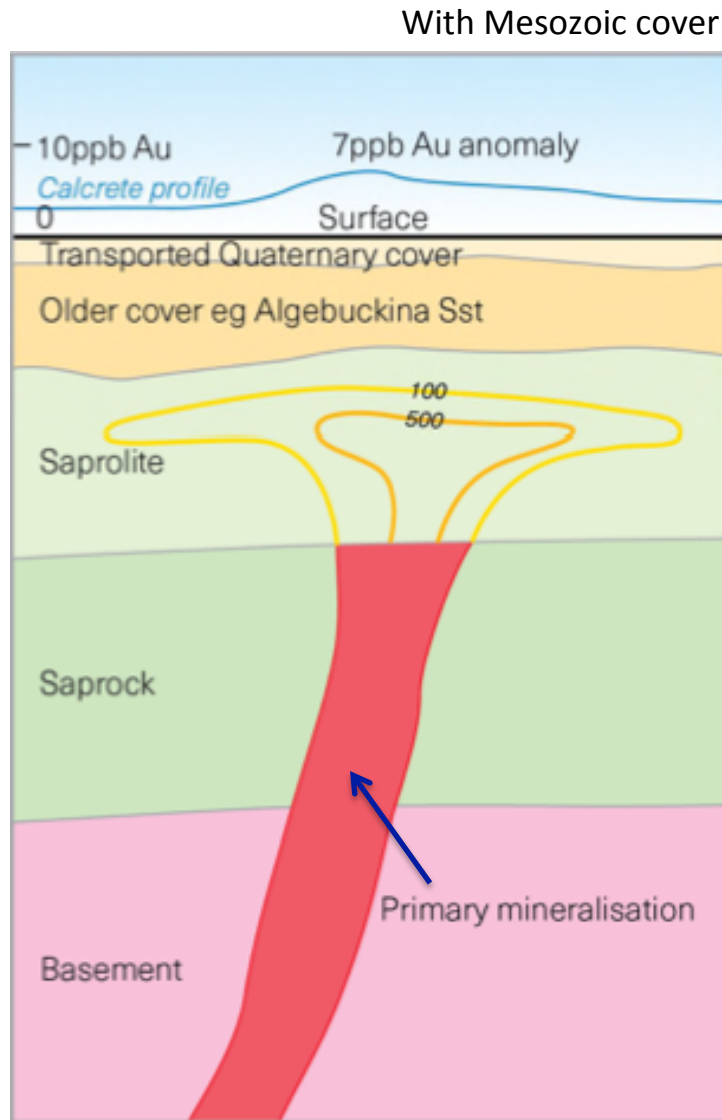


**Type (b)** Mineralisation under thin  
transported Quaternary cover



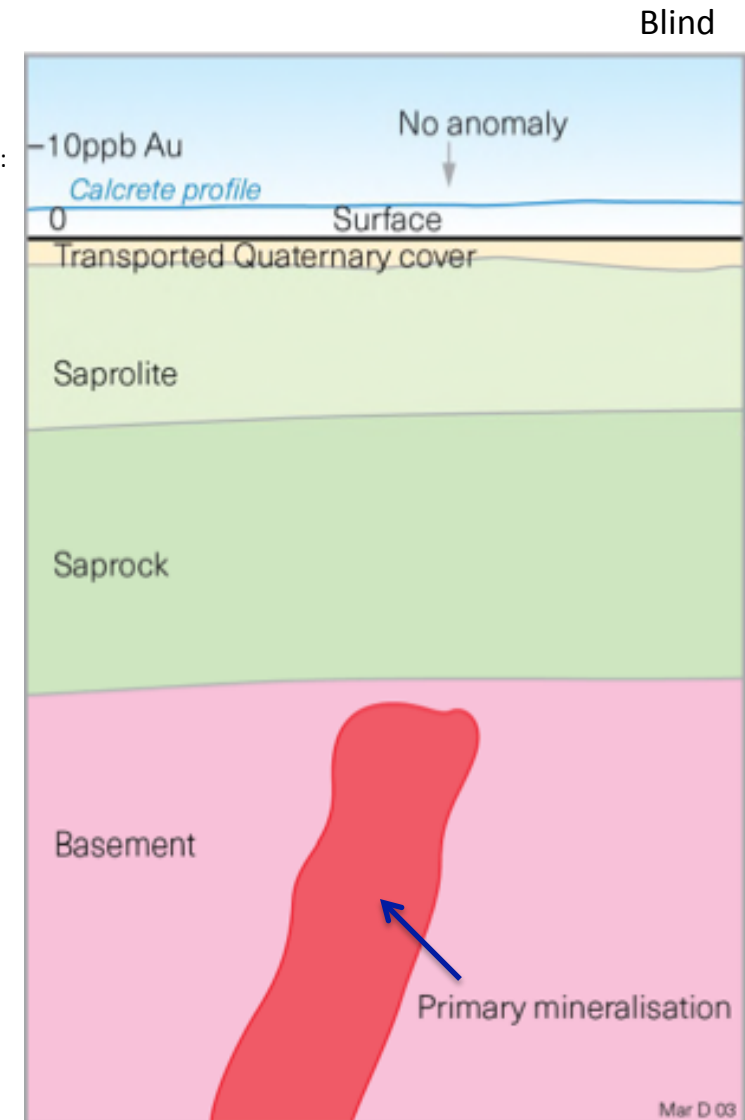
# Gold-in-calcrete ... continued

Gold-in-Calcrete:  
Generally to 10ppb



Type (c) Mineralisation under Mesozoic cover

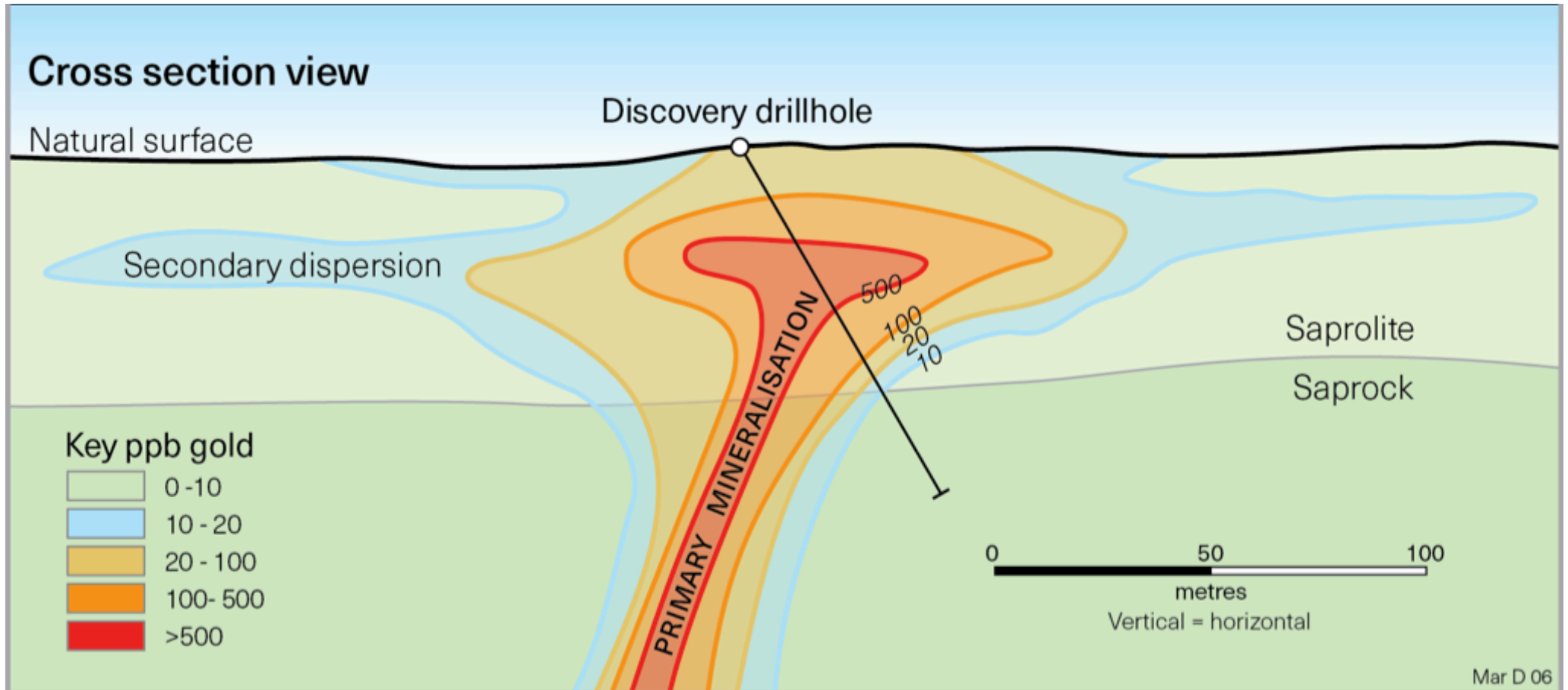
Gold-in-Calcrete:  
None



Type (d) Blind mineralisation

# The First Law of Secondary Dispersion

- The “First Law” says: grades decrease as you move away from the primary mineralisation
- Shallow grid drilling to 50 metres depth provides a 3D understanding of the geometry of gold dispersion
- Then: follow the grade increases to find the orebody



Model of geochemical dispersion around Western Gawler Craton gold mineralisation

## Now drilling: Aurora Tank

**Aurora Tank is situated about 50km NE of Challenger**

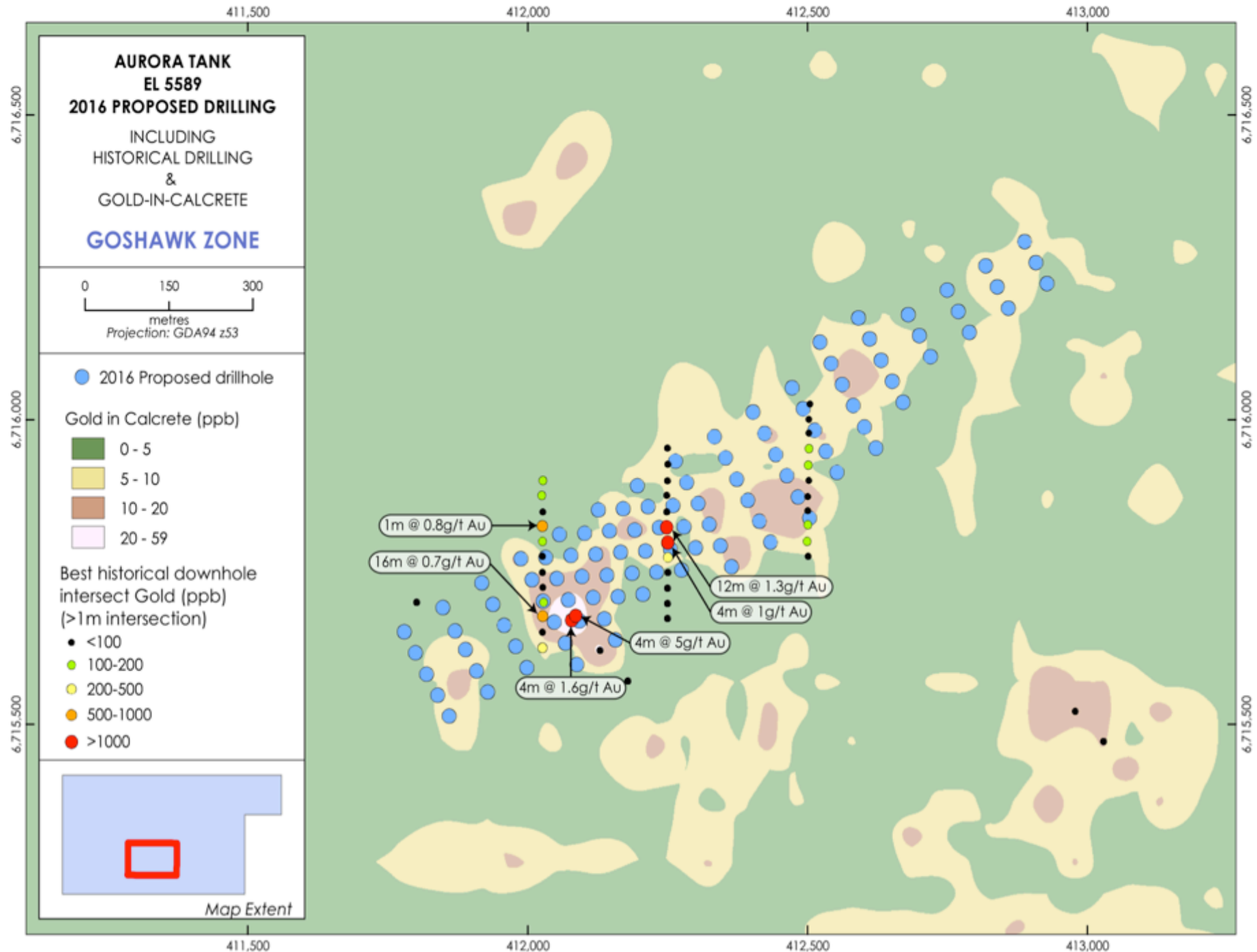
- Drilling to test the Goshawk Prospect at Aurora Tank with the intention of fully defining geochemical dispersion from gold mineralisation
- 98 angled aircore drill holes at approx. 50 metre depths
- Total drilling (approximately): 4,900m
- **Drilling started:** on 4 September
- **Duration:** about 3 weeks

## Goshawk Drill Grid

- 98 aircore holes
- ~50m depths
- Total: ~4,900m

**Started:** 4 Sept

**Duration:** 3 weeks



**COPPER**



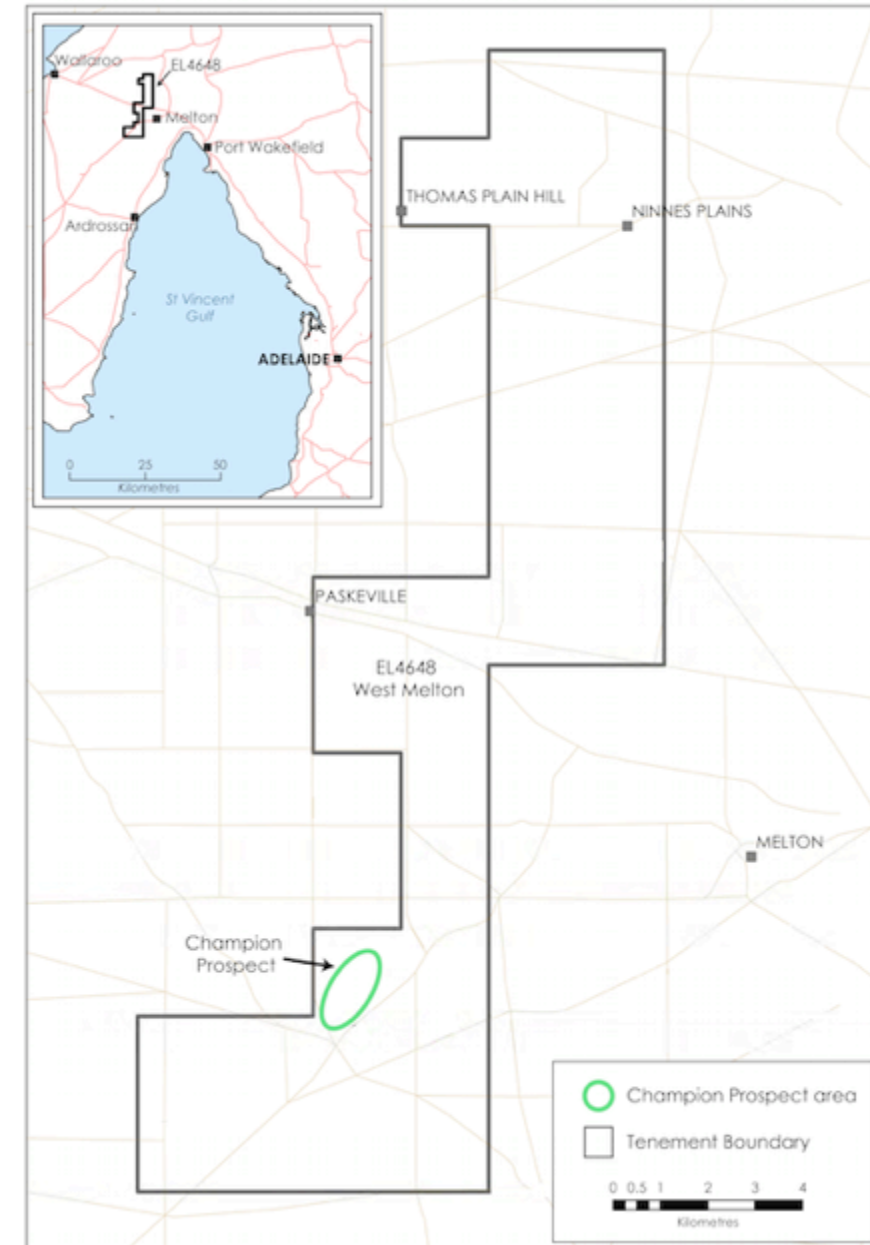
## First Exploration Target<sup>1</sup> (June 2016)

**1 to 4 million tonnes**  
at grade between **1.0% and 1.5% copper**

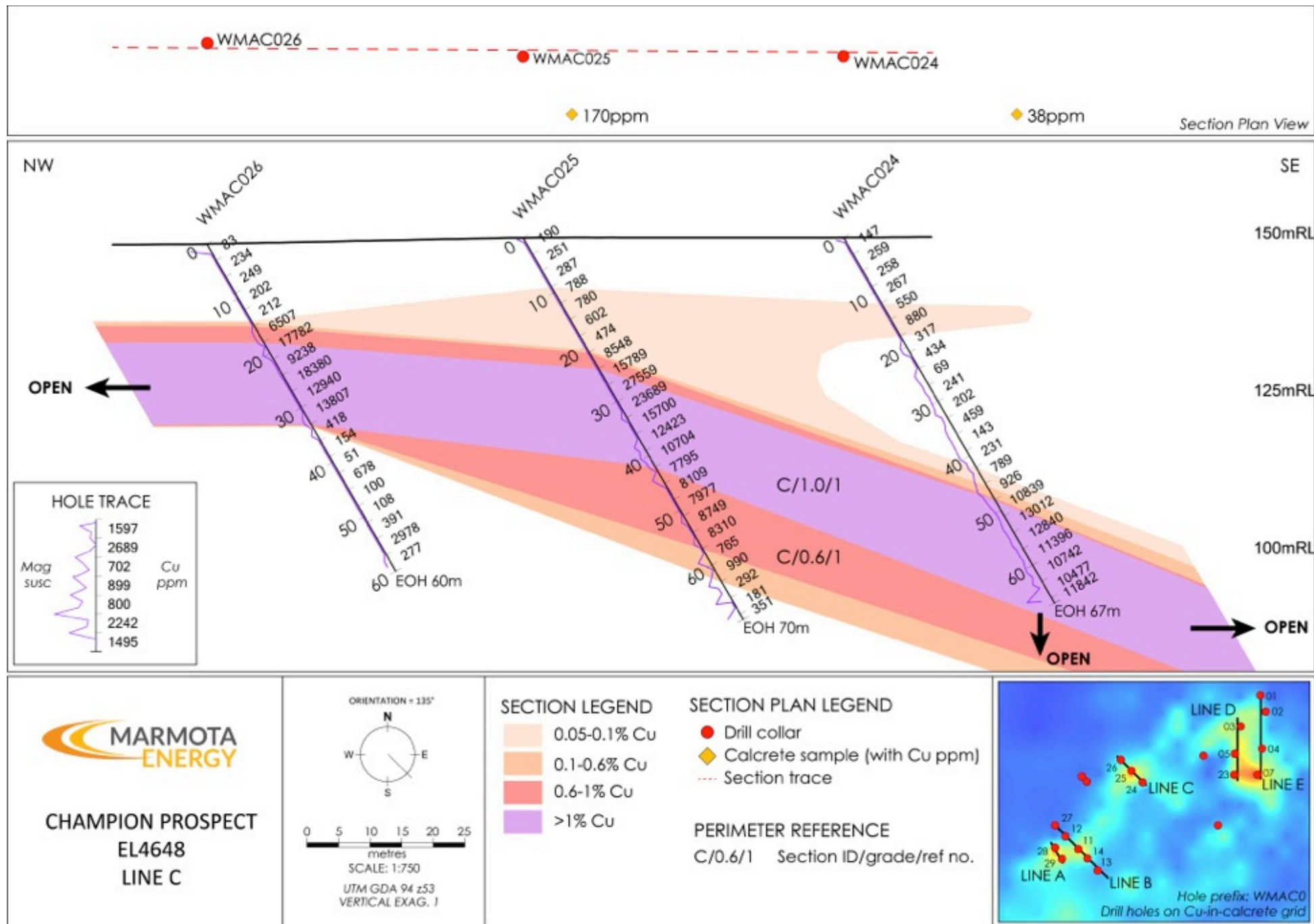
### The Exploration Target:

- ... has **8 open intersections** in the areas drilled
- ... **only includes secondary mineralisation** close to the surface; intersected sulphides have not been included in the estimate

1. See MEU:ASX 16 June 2016



### Section Line C

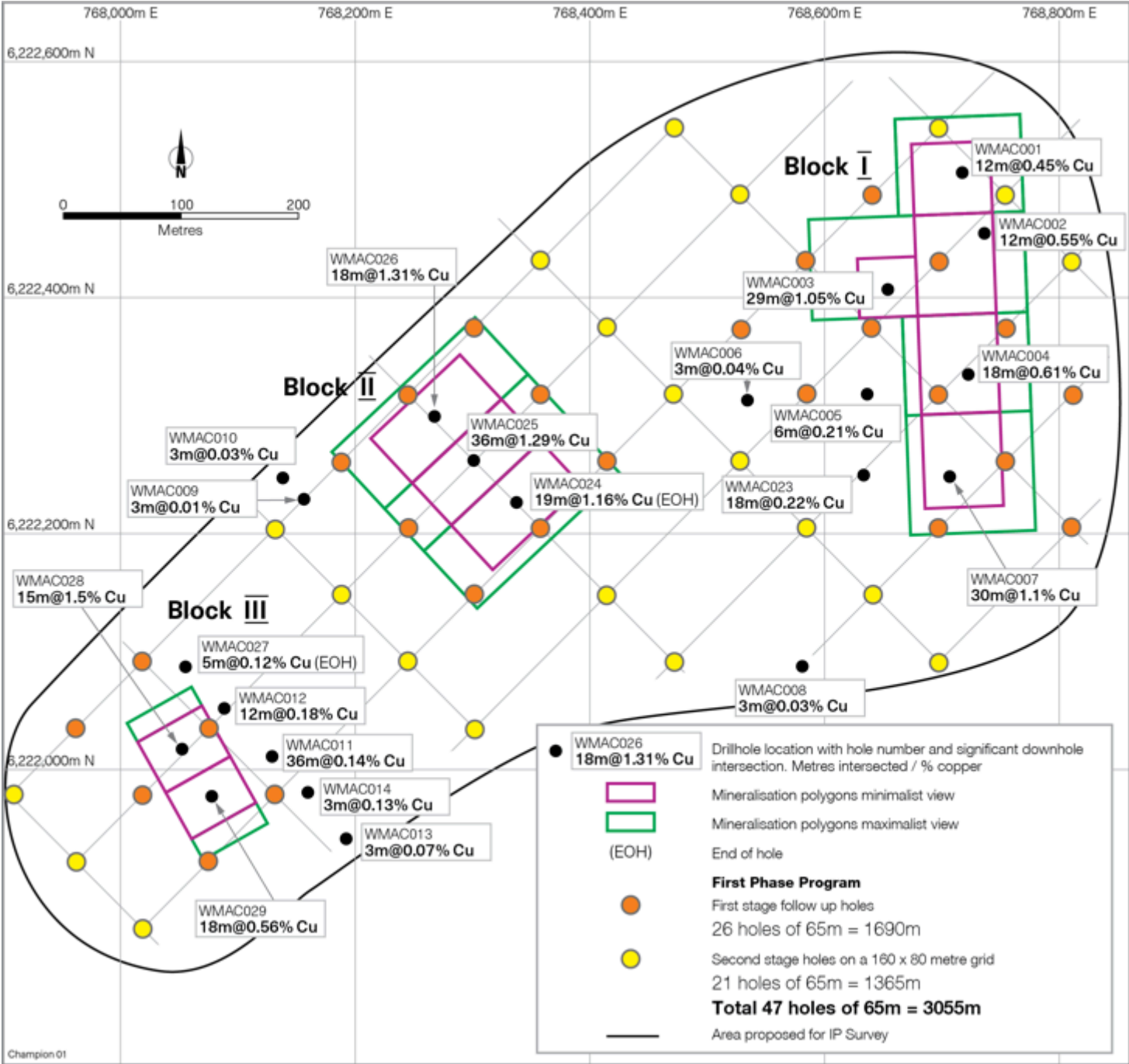


# Champion Prospect Exploration Target (Blocks I, II and III)

and

## Proposed First Phase Drilling Program

Drilling program  
should result in an  
Inferred Resource  
being able to be  
reported in  
accordance with the  
JORC Code.



# URANIUM

(currently on backburner)

**Update:** The Honeymoon plant has recently been sold.  
Interesting space to watch ...

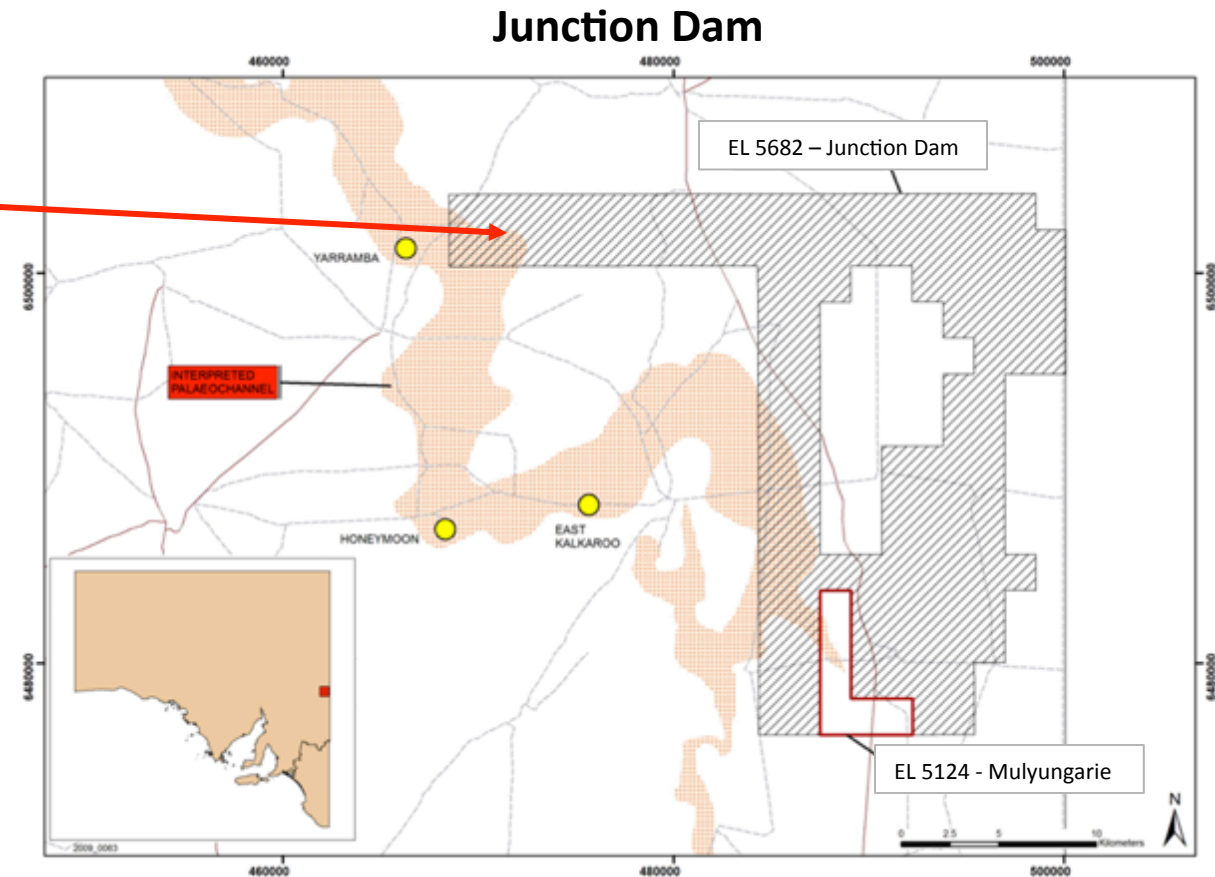
# Junction Dam

Located 10km from Honeymoon mine

## Permitted uranium mines in SA

- ★ Olympic Dam (operating)
- ★ Beverley/Four Mile (operating)
- ★ Honeymoon (care & maintenance; recently sold)

**Marmota holds 100% of the rights to uranium on the Junction Dam tenement**

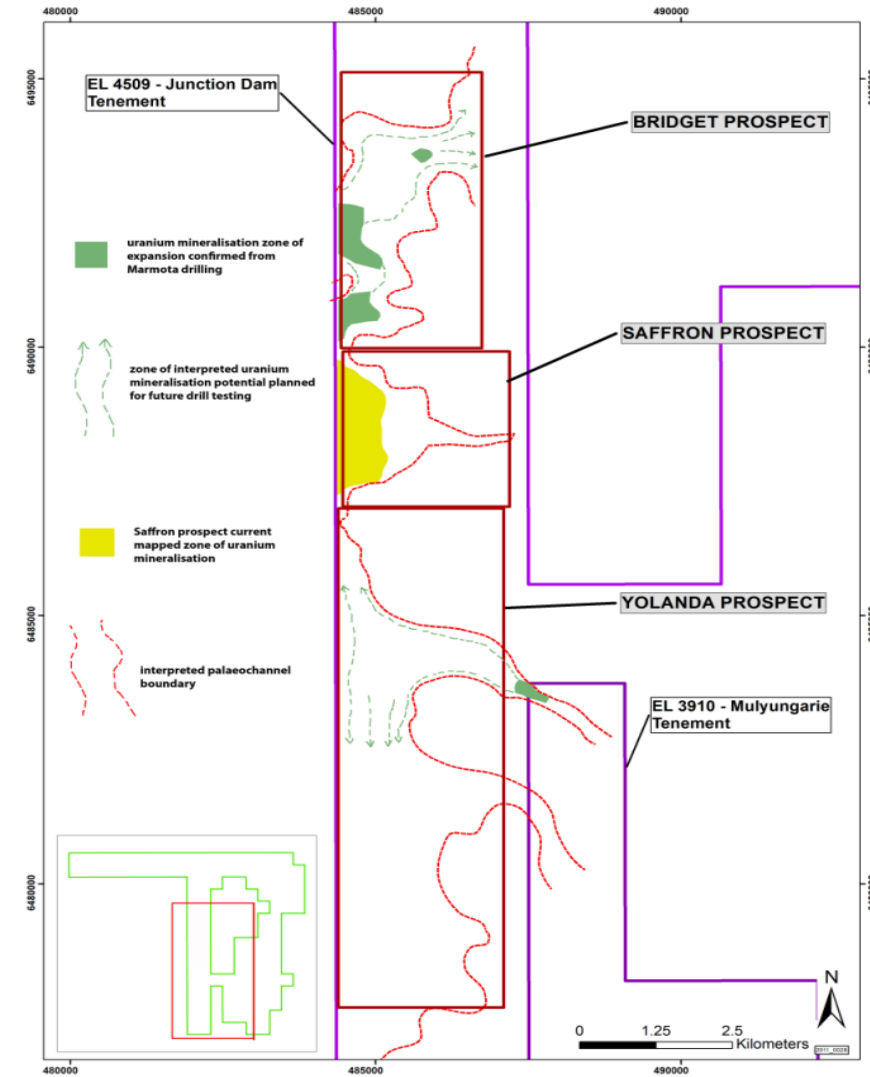




# Junction Dam: Resource and Targets

## Resource

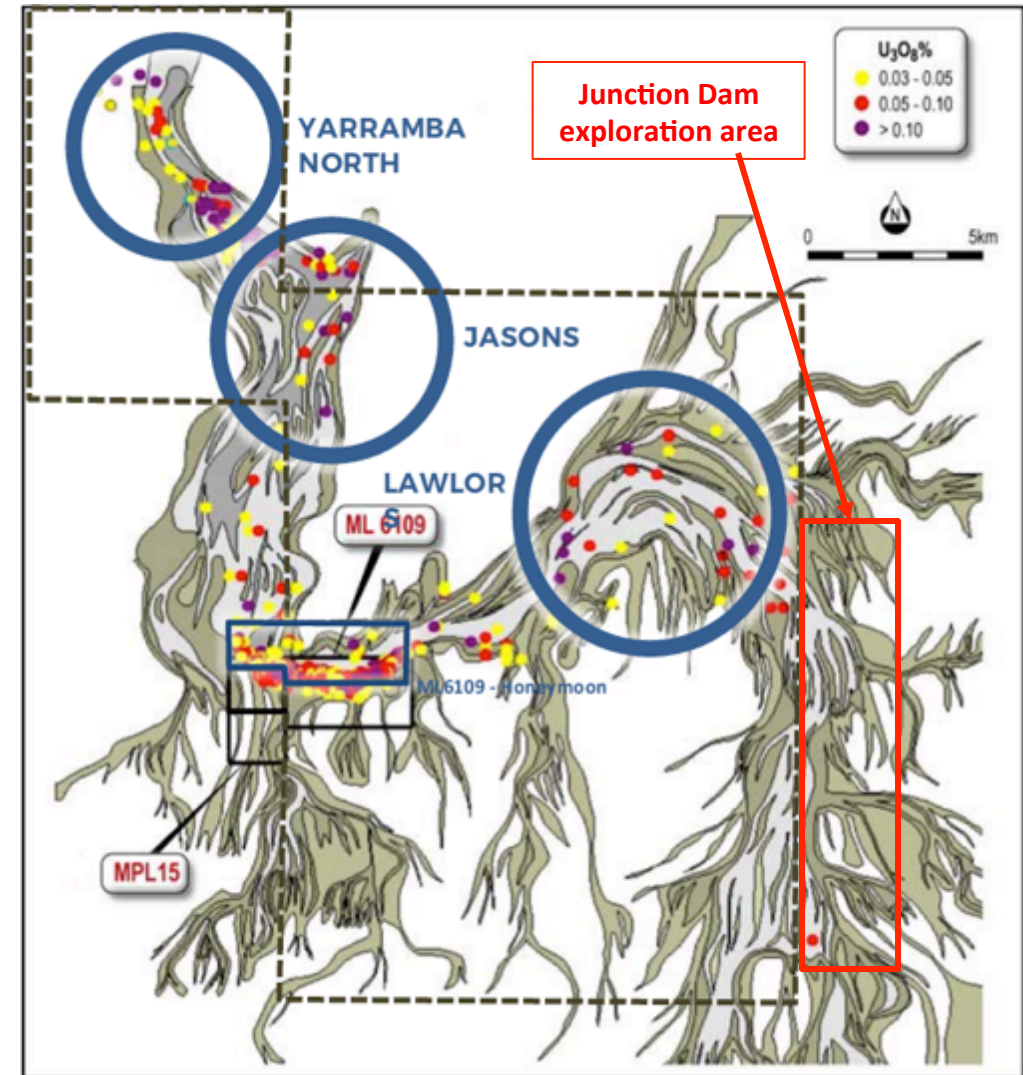
- Inferred resource of \* **5.4 million pounds** with average grade of 557ppm  $U_3O_8$  (see ASX: 18 July 2013)
- Overall Exploration Target of **22–33 million pounds**  $U_3O_8$  (Saffron deposit with Bridget and Yolanda prospects: see ASX: 9 July 2012)



\* Upward revision of the Saffron deposit inferred resource size as indicated above follows the application of an average positive disequilibrium factor of 1.63. This is an indicative result and further assessment is underway. It is uncertain if further exploration work or feasibility studies will result in the determination of an Ore Reserve.

# Honeymoon Mine

- Honeymoon Mine is 10 km west of Junction Dam
- Honeymoon Mine was developed by Uranium One and initially Mitsui with nameplate capacity of 880,000 lbs pa
  - Commissioned in 2011
  - Put on care and maintenance in 2013
  - Never achieved nameplate; got to 500,000 lbs pa
- Uranium One recently sold the Honeymoon Mine to Boss Resources who are looking to re-open.



# Honeymoon Mine Strategy

- To run economically efficiently, the Honeymoon Mine needs to double its nameplate capacity.
- Marmota personnel have viewed the plant and been in the data room: Marmota believes the capacity can be doubled and the additional uranium then required best met by including the uranium in Marmota's Junction Dam.
- Interesting space to watch ... especially if market conditions improve.



# Disclaimer

## Disclaimer

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## Cautionary Statement

The estimates of exploration target sizes mentioned above should not be misunderstood or misconstrued as estimates of Mineral Resources. The estimates of exploration target sizes are conceptual in nature and there has been insufficient results received from drilling completed to date to estimate a Mineral Resource compliant with the JORC Code (2004) guidelines. Furthermore, it is uncertain if further exploration will result in the determination of a Mineral Resource.

## Forward Looking Statement

This report may contain forward looking statements that are subject to risk factors which are based on MEU’s expectations relating to future events. Forward-looking statements are subject to risks, uncertainties and other factors, many of which are outside the control of MEU, which could cause actual results to differ materially from such statements. MEU makes no undertaking to update or revise the forward-looking statements made in this report to reflect events or circumstances after the date of this release.

## Competent Persons Statement

Information in this exploration update relating to Exploration Targets, Exploration Results and Mineral Resources is based on information compiled by Dr Kevin Wills, who is a Member of the Australasian Institute of Mining and Metallurgy. He has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the “Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves.” Dr Wills consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.