



**MARMOTA**



**Aurora Tank**

*Gawler Craton*

# **Investor Update**

## **July 2020**

**ASX: MEU**

## Capital Structure

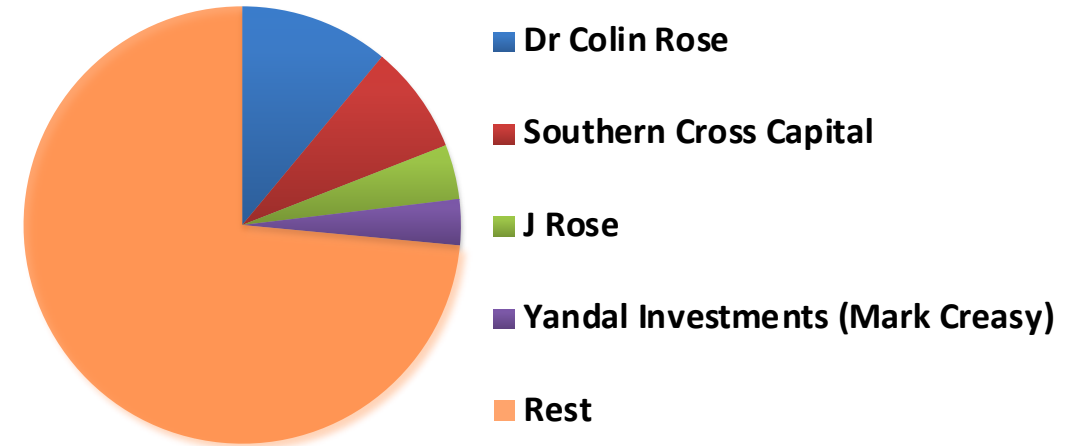
<b>Shares on issue</b>	845 m
<b>Options</b>	0
<b>Unlisted employee options</b> (exercisable at 3 cents)	2.5 m
<b>Market Cap</b> (at 6.3 cents per share)	~ \$53 m
<b>Cash</b> (as at 30 March 2020)	\$ 2,765,000

**Zero Debt**

## Board & Management

<b>Executive Chairman</b>	Dr Colin Rose
<b>Executive Director</b> [ Exploration ]	Dr Kevin Wills
<b>Executive Director</b> [ Production ]	Shane Barker

## Large Shareholders



## Top Shareholders

<b>Top 20</b>	~ 43%
<b>Top 50</b>	~ 57%
<b>Top 100</b>	~ 71%

Lower costs

Less dilution

**MORE exploration**

## Dr Kevin Wills

Executive Director  
**Exploration**

- Joined Board in 2016
- Heads up **EXPLORATION**
- Gold award winning geologist with multiple discoveries, including designing the programs that discovered Challenger

## Dr Colin Rose

Executive  
**Chairman**

- Joined Board as Chairman in 2015
- Background in economics, finance and computational statistics
- Long-term fundamentals investor, with focus on gold
- Largest shareholder (all purchased)
- Commenced as non-exec Chair at \$1 salary per year: emphasis on MIN admin, and MAX exploration

## Shane Barker

Executive Director  
**Production**

- Joined Board in Sept 2019
- Brought in to head up **transition to PRODUCTION**
- Metallurgist with extensive production experience at companies such as BHP, Evolution, Sons of Gwalia etc
- Extensive Heap Leach experience



**MARMOTA**



# **AURORA TANK**

## **Gold Discovery**

**ASX: MEU**

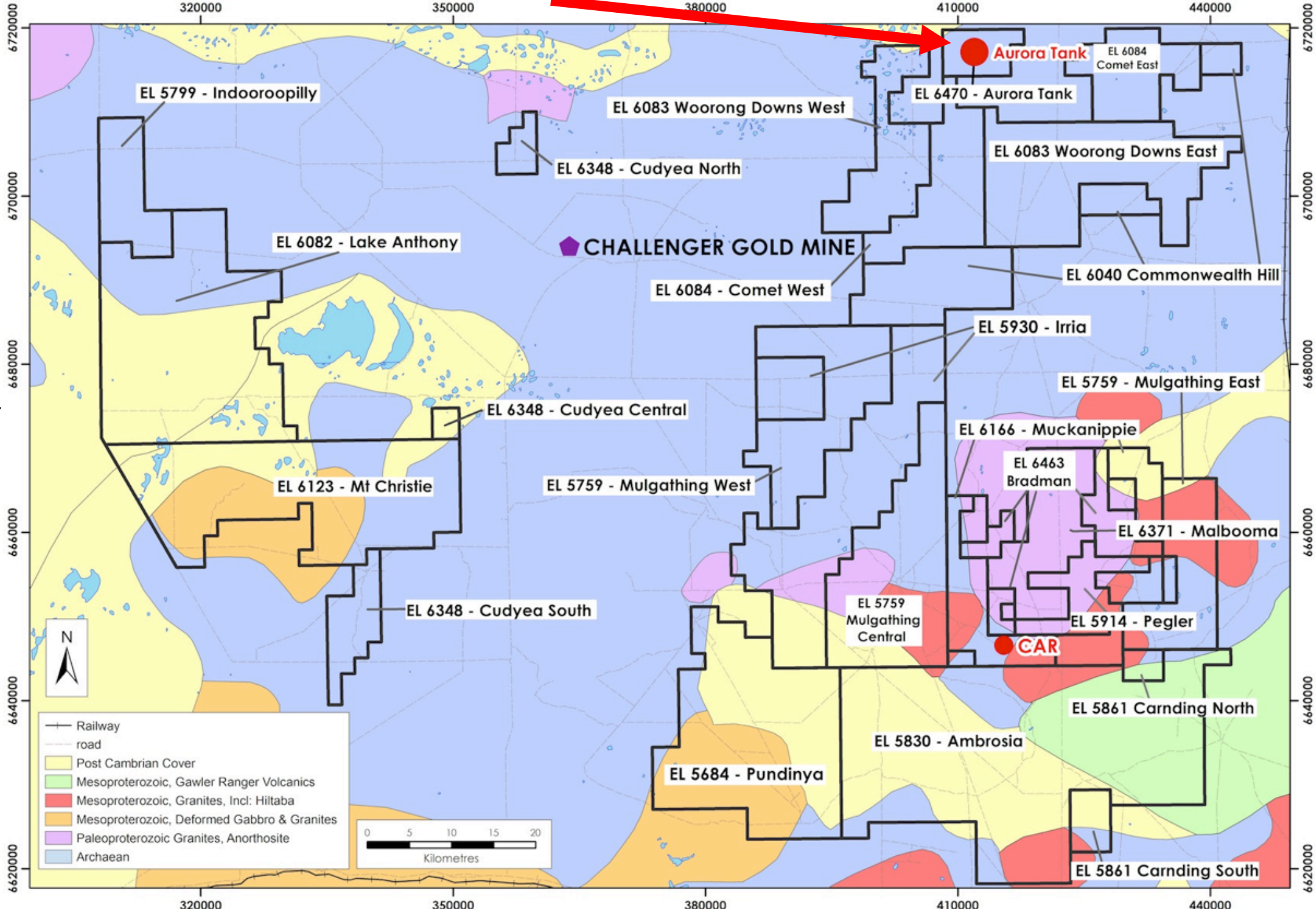


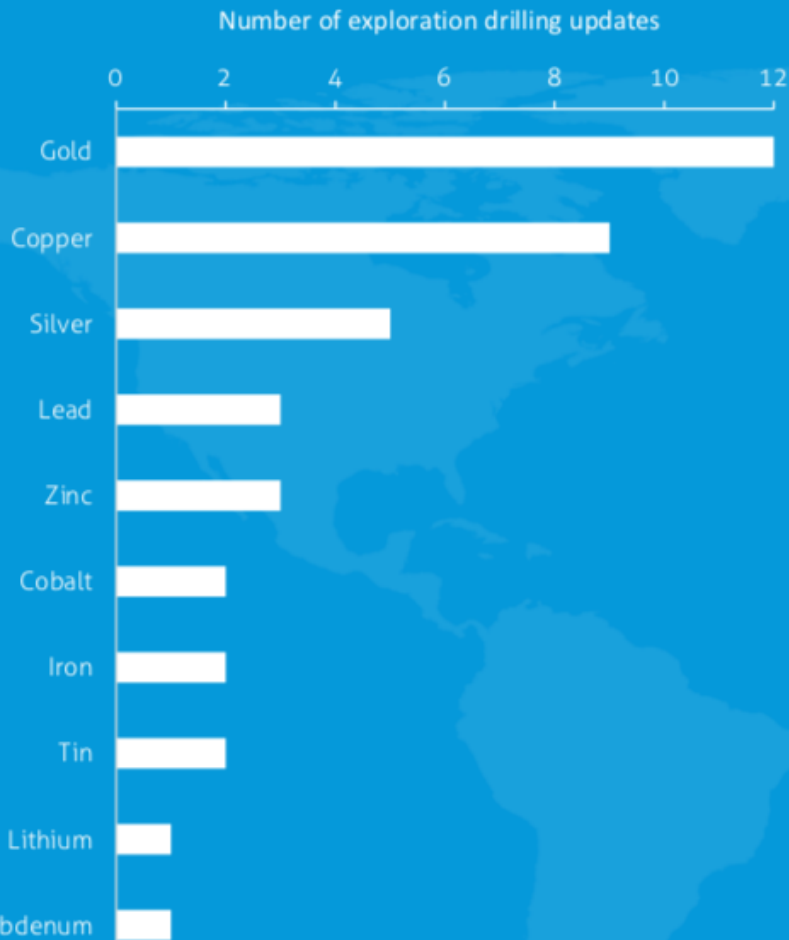
- Aurora Tank is located: about 100 km SW of Coober Pedy, and 50km NE of the Challenger Gold <sup>1</sup> mine  
... in the highly prospective and under-explored Woomera Defence Area.
- Aurora Tank was featured in ‘**Top Drill Intersections per State – Australia – Q1 2019**’ published by the *RSC Mineral Intelligence Report* (May 2019) and is yielding multiple high-grade intersections such as:
  - 3m @ 41 g/t gold** (from 21m) including 1m @ **120 g/t** gold
  - 5m @ 27 g/t gold** (from 38m) including 1m @ **105 g/t** gold
  - 2m @ 67 g/t gold** (from 32m) including 1m @ **93 g/t** gold
  - 3m @ 24 g/t gold** (from 34m) including 1m @ **51 g/t** gold
  - 3m @ 29 g/t gold** (from 63m) including 1m @ **74 g/t** gold
- Marmota has now carried out **7 drill programs** at Aurora Tank. All have been successful: the mineralised zone keeps expanding and is open in multiple directions. The 8<sup>th</sup> and largest drill program is about to begin this month.
- Standout features are:
  - ✓ **Outstanding High-grade gold intersections**
  - ✓ **Close to surface**
  - ✓ **Excellent metallurgy** (gold recoveries)
  - ✓ **Amenable to Low-cost, Low capex, open-pit heap leach production methods**

<sup>1</sup> Challenger produced **over 1.2 million ounces** of high-grade gold (A\$3 billion of gold at current prices) and was one of Australia’s most profitable open-pit gold mines. [ cf. Southern Gold Annual Report 2009 p. 11 ]

**MEU  
Gold  
Tenements**

Aurora Tank is located about 100km SW of Coober Pedy, and 50 km NE of the Challenger Gold mine





**Source: Top Drill Intersections per State – Australia ( RSC Report May 2019 )**

Gold was the most common commodity reported in the top exploration drilling updates across the Australian states. Precious metals and base metals were dominant across most states. Cobalt was reported in two top intersections; one from Queensland and one from Northern Territory. The intersections from projects in Tasmania were both from tin deposits.

*Note: Data includes the top three drill intersections from each state except in the case of Tasmania where only two projects released exploration drilling updates during the reporting period. Some drill intercepts contain multiple commodities therefore, numbers may not add up to the total.*



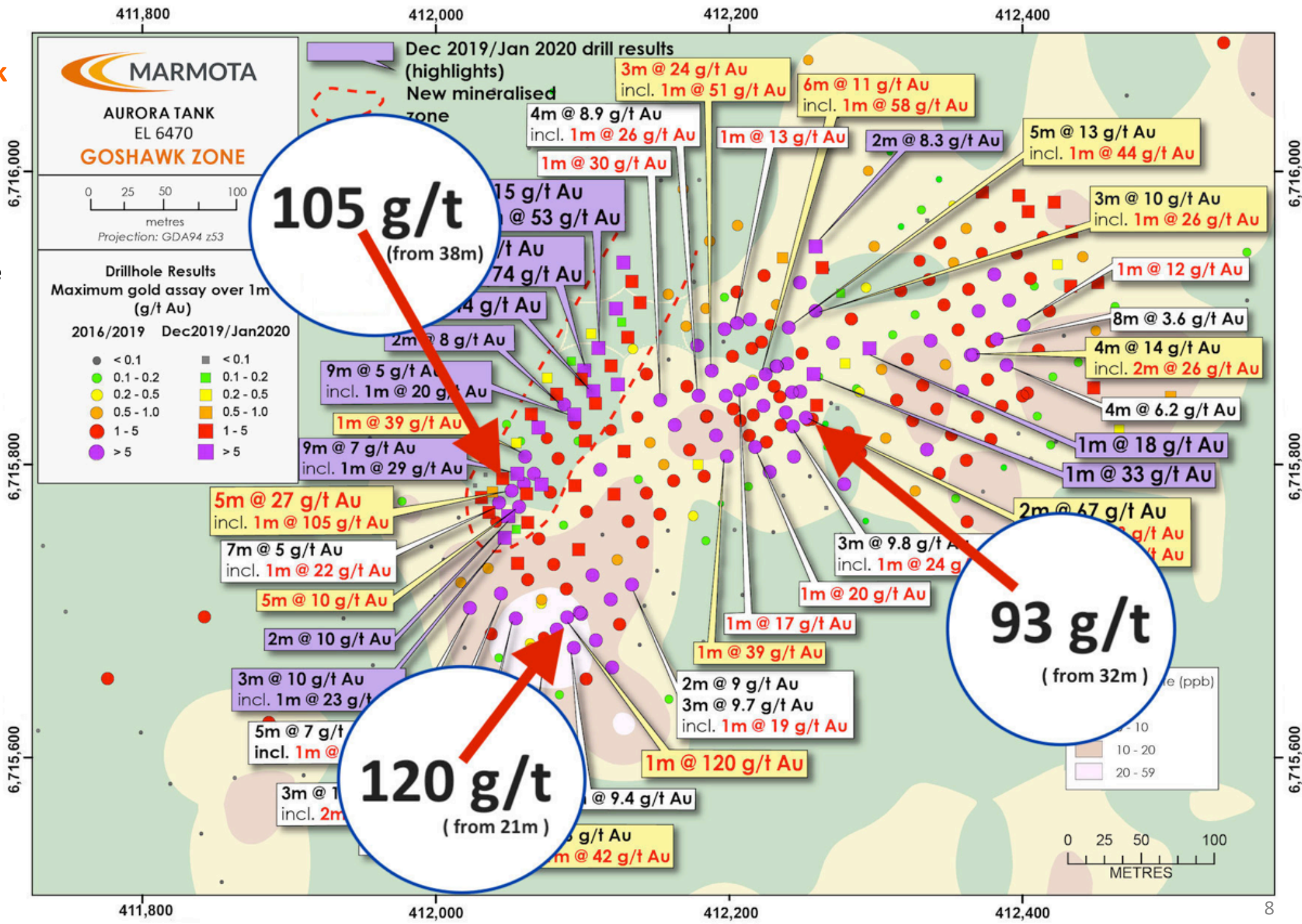
# Aurora Tank

Plan View  
June 2020

Best downhole  
Gold results

Circled text  
highlights best 1m  
intersections

ASX:MEU  
21 May 2020



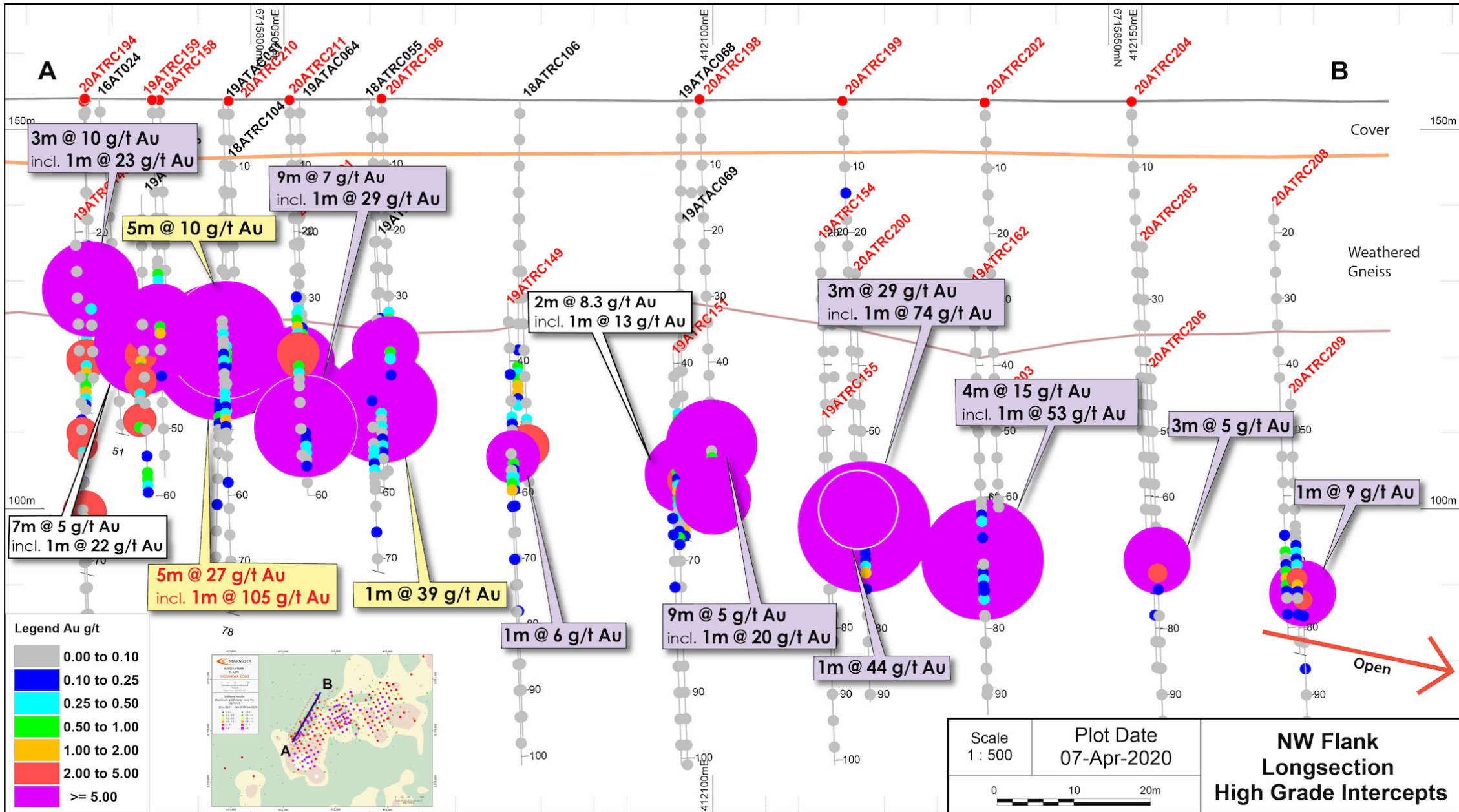
# Aurora Tank: Outstanding Intersections

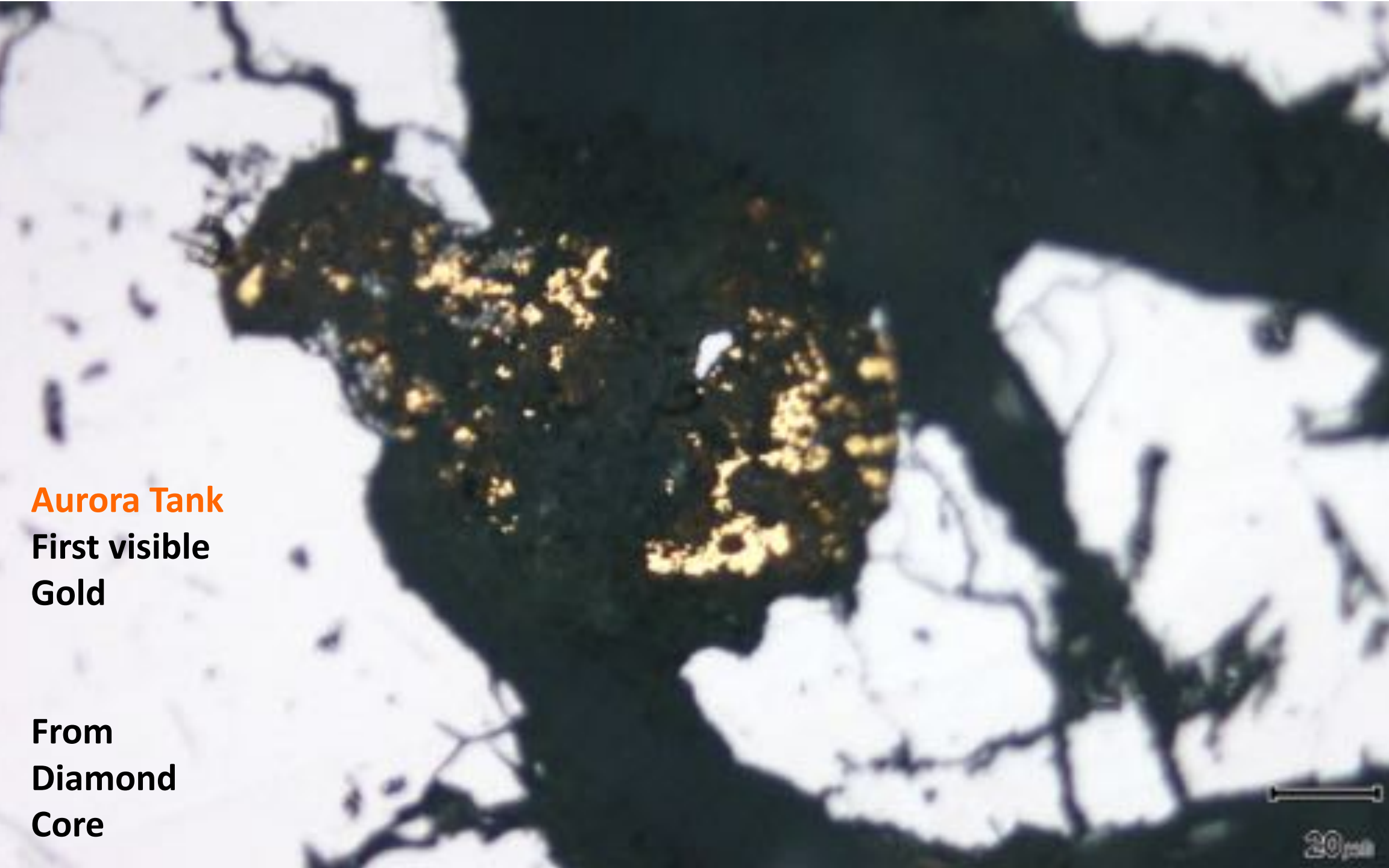
All close to surface

▪	2m at	67 g/t	gold	from 32m	— Hole 17AT021	( incl	1m @ 93 g/t	gold from 32m )
▪	3m at	41 g/t	gold	from 21m	— Hole 19AT049	( incl	1m @ 120 g/t	gold from 21m )
▪	5m at	27 g/t	gold	from 38m	— Hole 18AT104	( incl	1m @ 105 g/t	gold from 38m )
▪	3m at	29 g/t	gold	from 63m	— Hole 20AT200	( incl	1m @ 74 g/t	gold from 64m )
▪	3m at	24 g/t	gold	from 34m	— Hole 18AT065	( incl	1m @ 51 g/t	gold from 35m )
▪	4m at	15 g/t	gold	from 67m	— Hole 19AT162	( incl	1m @ 53 g/t	gold from 69m )
▪	6m at	11 g/t	gold	from 40m	— Hole 18AT074	( incl	1m @ 58 g/t	gold from 44m )
▪	5m at	13 g/t	gold	from 41m	— Hole 17AT022	( incl	1m @ 44 g/t	gold from 45m )
▪	4m at	14 g/t	gold	from 32m	— Hole 17AT011	( incl	1m @ 42 g/t	gold from 33m )
▪	4m at	10 g/t	gold	from 25m	— Hole 16AT043	( incl	1m @ 39 g/t	gold from 27m )
▪	9m at	7.5g/t	gold	from 41m	— Hole 20AT201	( incl	1m @ 29 g/t	gold from 49m )
▪	2m at	20 g/t	gold	from 46m	— Hole 19AT065	( incl	1m @ 39 g/t	gold from 47m )
▪	3m at	10 g/t	gold	from 28m	— Hole 18AT070	( incl	1m @ 24 g/t	gold from 29m )
▪	3m at	12 g/t	gold	from 29m	— Hole 17AT045	( incl	1m @ 20 g/t	gold from 30m )
▪	3m at	11 g/t	gold	from 22m	— Hole 16AT019	( incl	1m @ 23 g/t	gold from 22m )
▪	3m at	10 g/t	gold	from 58m	— Hole 18AT120	( incl	1m @ 26 g/t	gold from 59m )
▪	3m at	10 g/t	gold	from 22m	— Hole 17AT035	( incl	1m @ 19 g/t	gold from 23m )
▪	3m at	10 g/t	gold	from 28m	— Hole 20AT144	( incl	1m @ 23 g/t	gold from 28m )
▪	10m at	6 g/t	gold	from 17m	— Hole 17AT042	( incl	1m @ 42 g/t	gold from 18m )
▪	9m at	5 g/t	gold	from 52m	— Hole 20AT198	( incl	1m @ 20 g/t	gold from 52m )
▪	4m at	9 g/t	gold	from 28m	— Hole 17AT026	( incl	1m @ 26 g/t	gold from 31m )
▪	2m at	13 g/t	gold	from 37m	— Hole 19AT063	( incl	1m @ 22 g/t	gold from 37m )



# Schematic Long-section through new NW flank





**Aurora Tank**  
First visible  
Gold

From  
Diamond  
Core

20  $\mu$ m



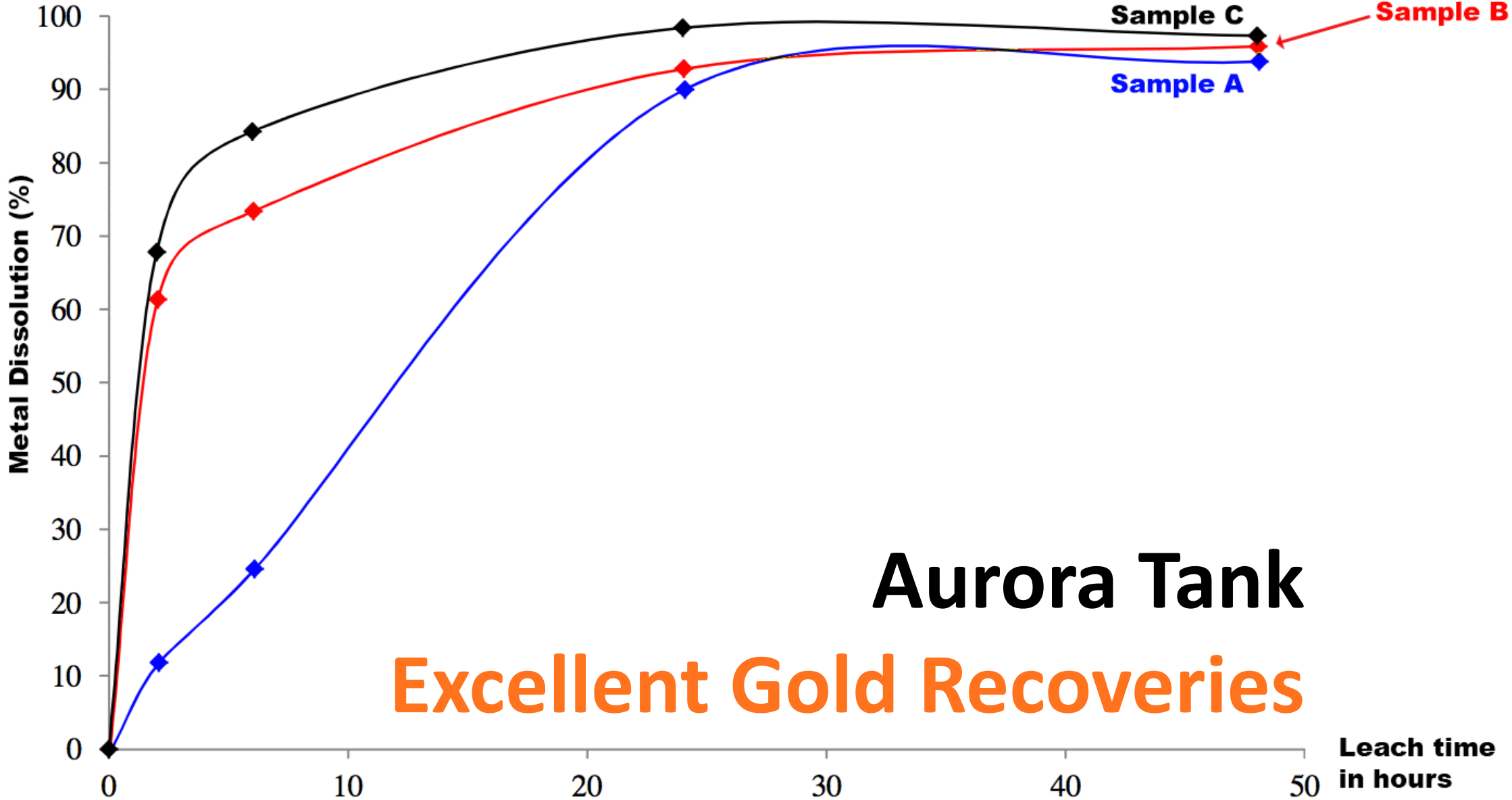
# AURORA TANK

# Metallurgy

ASX: MEU



**Bottle-roll tests**



**Aurora Tank**  
**Excellent Gold Recoveries**

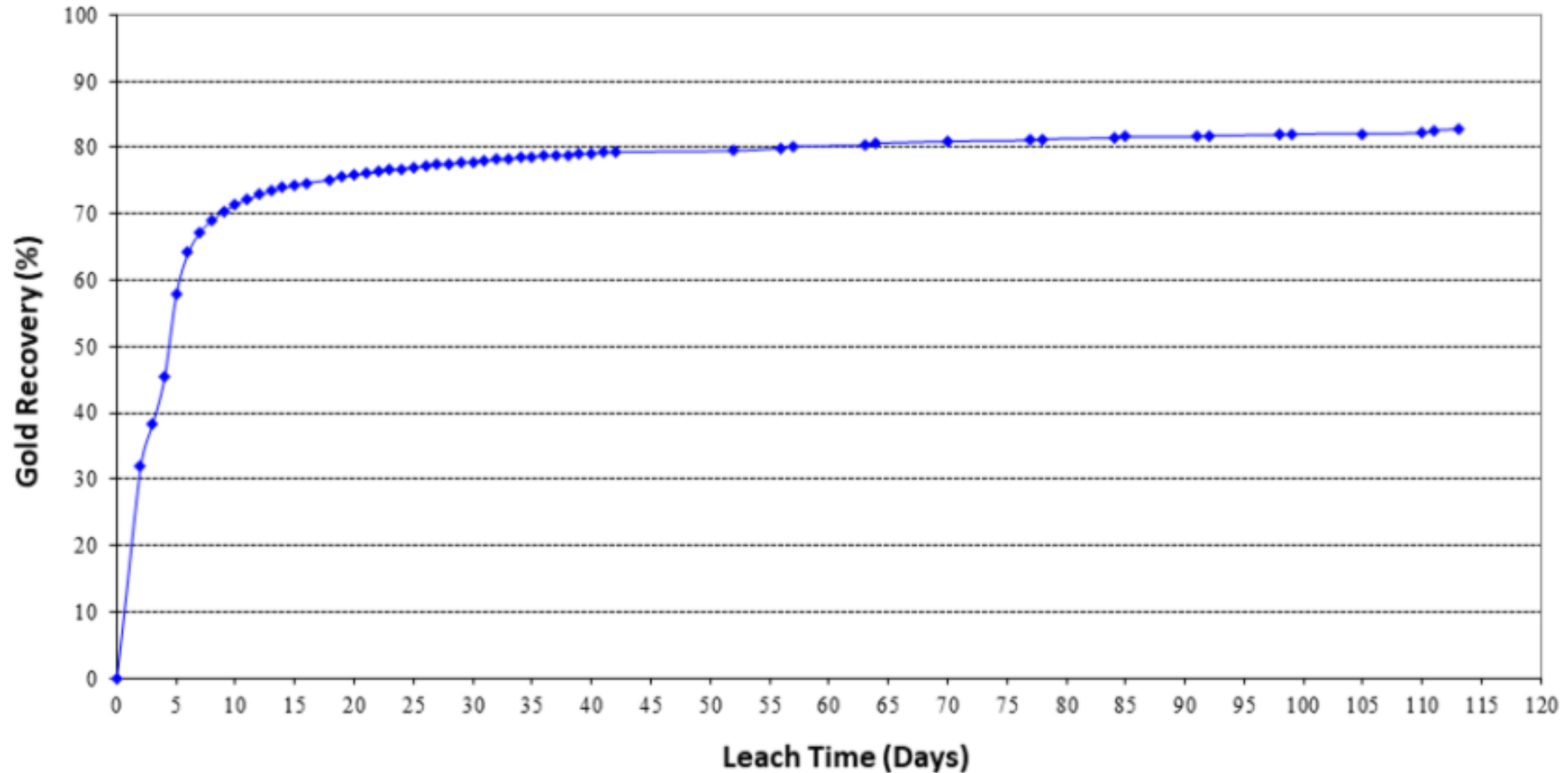
Gold Recoveries (in %) vs Leach times in hours (for the 3 test samples)

# Metallurgy: Low-cost Low-capex Heap Leach Pathway

- **Oct 2019:** Column leach tests yield excellent gold recoveries

## Gold recoveries vs Time

### Column Leach Performance



# Low-cost Low-capex Heap Leach Pathway

“ Marmota has been investigating the optimal pathway to production at Aurora Tank. The excellent **column leach test gold recoveries** suggest that Aurora Tank is amenable to **low-cost low-capex heap leach techniques**.

A heap leach means that Marmota would **not** need to construct a mill, nor share revenue with external parties for toll treatment in a mill. This is a highly desirable outcome for both the Company and our shareholders. ”

# Marmota as a company is evolving ...

Transitioning from:

Discovery



Production

To expedite the process, Marmota is progressing in parallel:

## Drilling

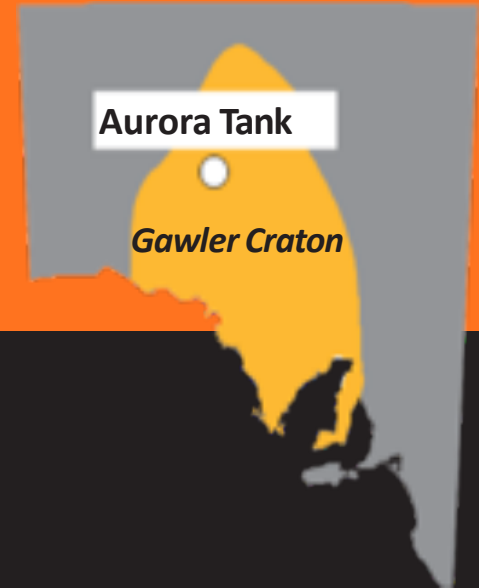


Extensions to NW flank, to NE, to E, and to depth (July/Aug 2020); following primary mineralisation; and selected in-fill drilling to aid resource modelling and optimal pit design; density estimation; feasibility study

## Infrastructure and Approvals



New Director of Production (Shane Barker) appointed, semi-permanent camp being installed (July 2020), consultants being appointed for necessary environmental, hydrological, hydrogeology approvals etc



# AURORA TANK

## What's Next

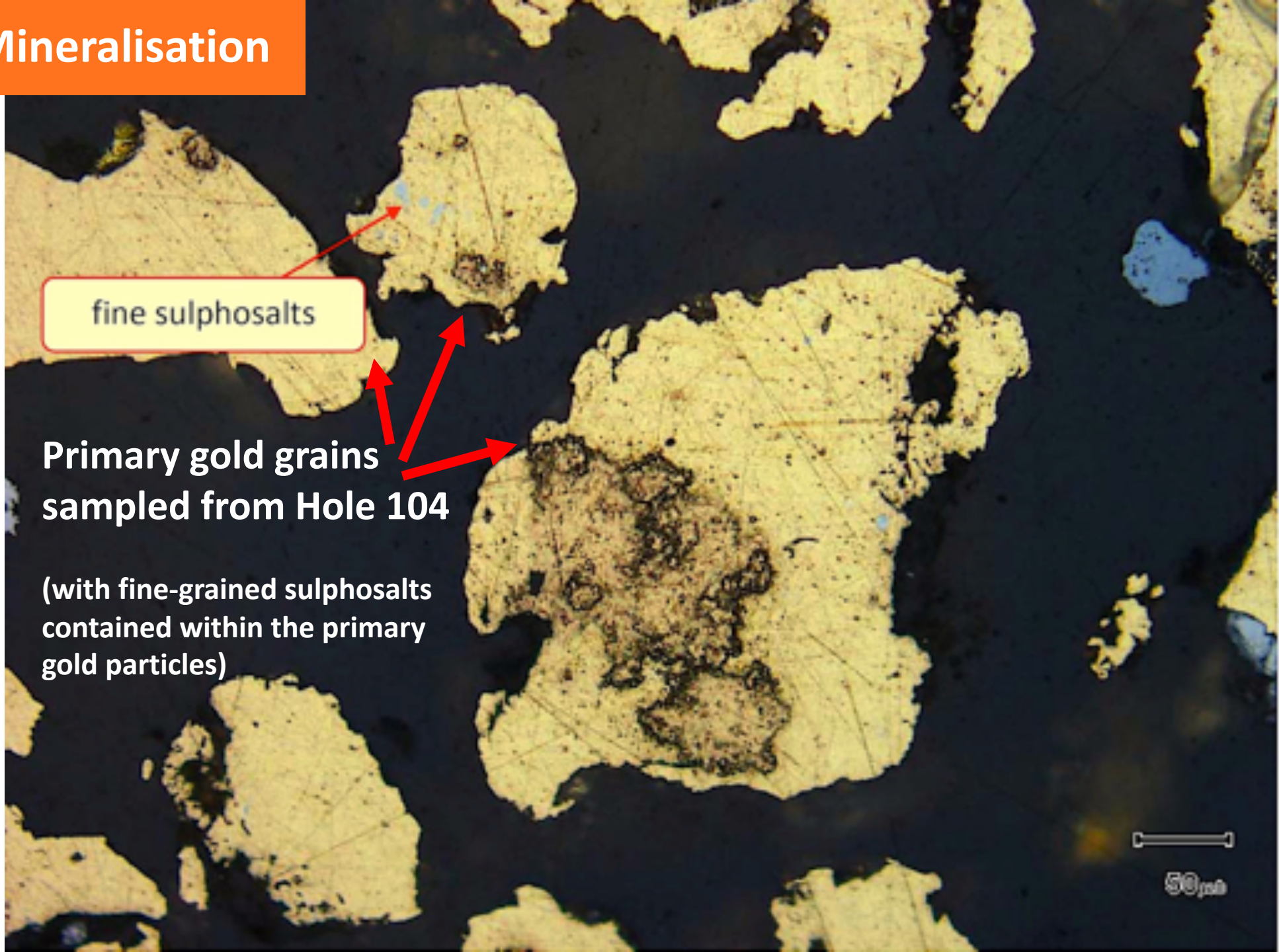
ASX: MEU

# Primary Mineralisation

Tests of gold grains (105 g/t) collected at 38m downhole on the NW flank are predominantly **PRIMARY** mineralisation.

ASX:MEU  
21 May 2020

Suggests host mineralised lodes can be expected to geologically continue to depth below zone currently drilled



**Primary gold grains  
sampled from Hole 104**

(with fine-grained sulphosalts  
contained within the primary  
gold particles)



# Aurora Tank: July and August

## Marmota's largest ever RC drill program

**Commencing ~ mid-July (this month):**

- RC drill program: 85 holes
- Total RC drilling: 7,500m (approx.)
- Hole depths: Average: 88m (Max: 150m)

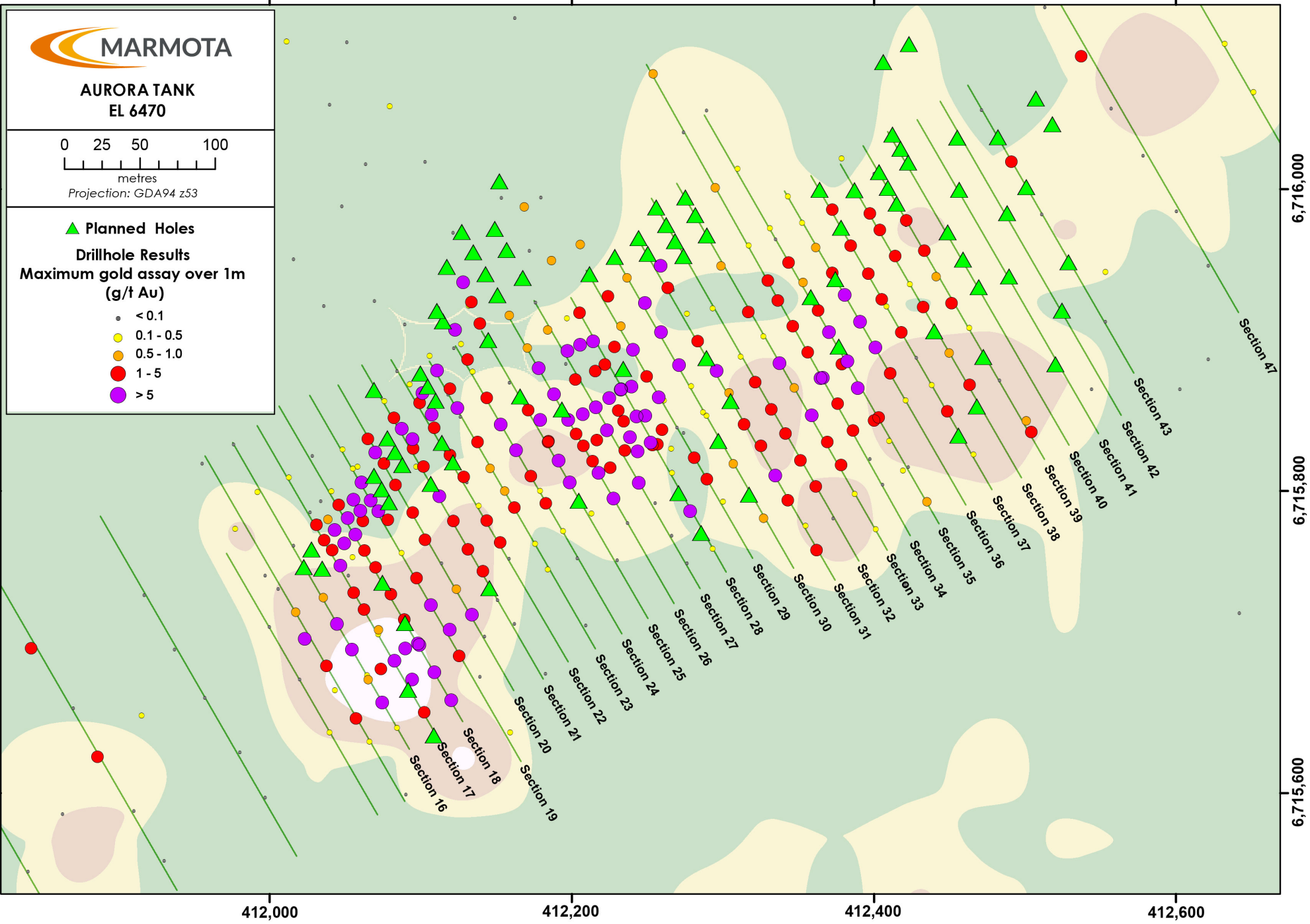
**Multiple objectives + multiple targets:**

- NW Flank – extensions [ see next slide ]
- Extensions to N and NE
- Extensions to the East
- Extensions at depth **targeting primary mineralisation**



# July 2020 RC Drill Program

## Planned July RC Drill Holes





# Aurora Tank: July

## Semi-permanent camp being set-up

- Critical infrastructure to expedite operations pathway
- **Camp includes:**
  - multiple sleeping quarters
  - separate kitchen
  - management office
- **First stage:**
  - 5 donga units now ready for **imminent move** to Aurora Tank
- **Camp should be installed around mid-July, in time for July drilling**

# Key Takeaways



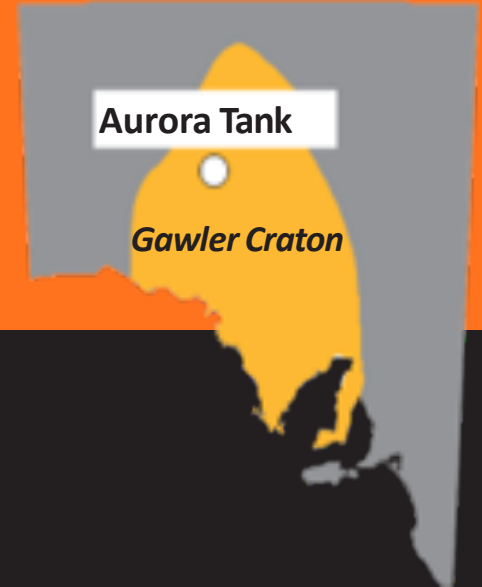
Aurora Tank is very fortunate to have:

- ✓ **Outstanding High-grade gold intersections**
- ✓ **Mineralisation Close to surface**
- ✓ **Excellent Gold recoveries (metallurgy)**
- ✓ **Soft ground (potential for 'free dig' )**
- ✓ **Primary mineralisation (potential to continue deeper)**

Company focusing on potential for:

**Low-cost Open-pit**

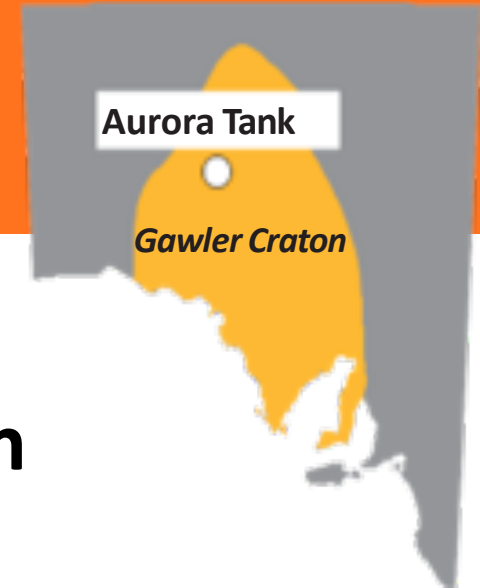
**Low-capex Heap leach pathway**



# NW Gawler Our Backyard

ASX: MEU

# Aurora Tank: first step in Marmota's Gold NW Gawler Exploration Program



- ✓ Highly prospective under-explored jurisdiction
- ✓ Marmota applying our new **biogeochemical techniques** successfully developed at Aurora Tank
  - tree sampling to help ‘see’ below the surface
- ✓ MEU just awarded \$225,000 exploration grant by SA Government [ ASX:MEU 24 June 2020 ]

# Marmota's tree sampling success at Aurora Tank receives international recognition



Marmota's R&D biogeochemical program and exploration success featured on cover stories in *The Economist* and *New Scientist*

# Potential Strategic Acquisition

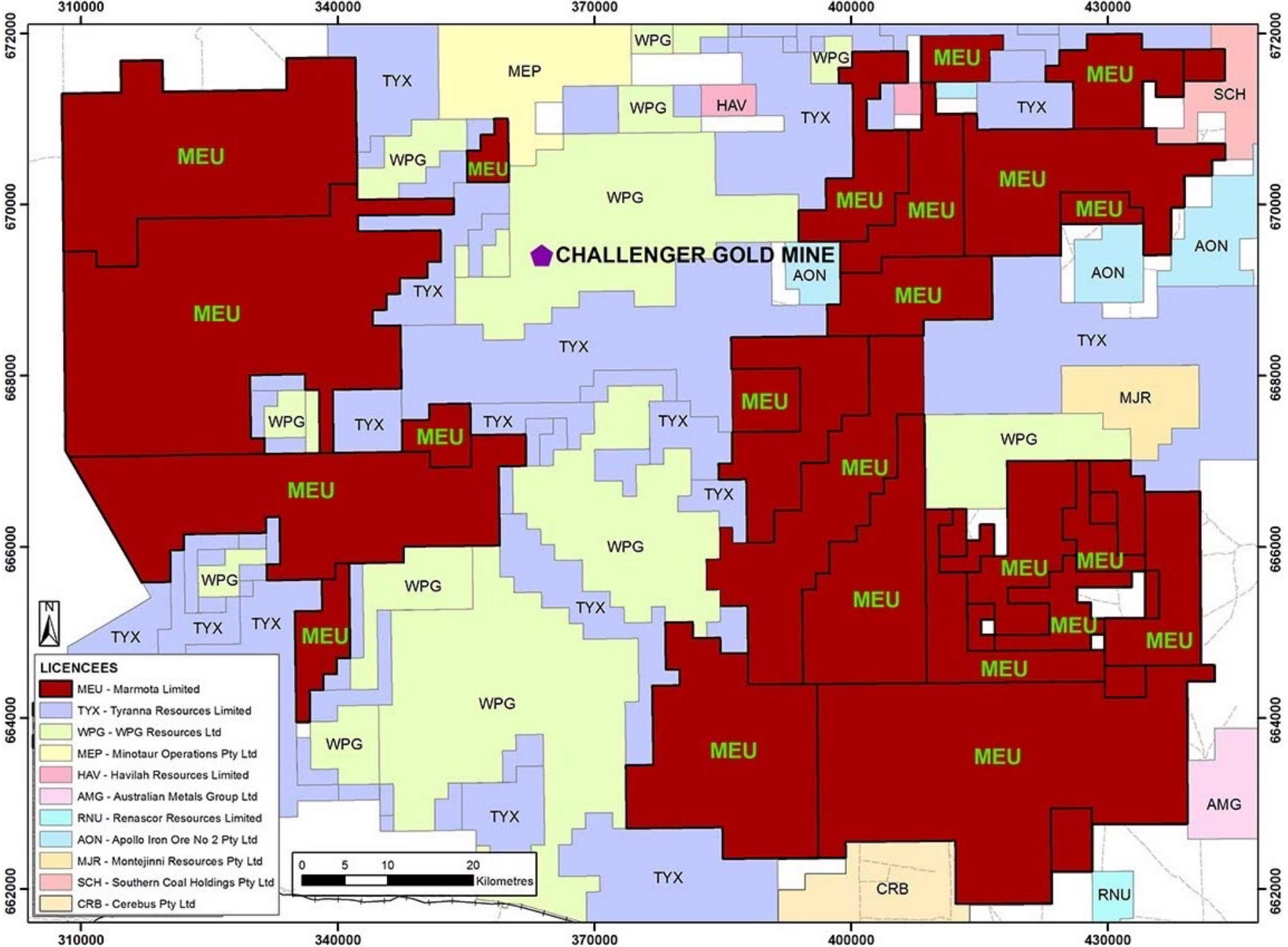


- ✓ Marmota has a **dominant land holding** (6,000 km<sup>2</sup>), and is interested to further increase it
- ✓ Marmota has made **an open offer** to acquire neighbour Tyranna's Jumbuck project (predominantly adjacent tenements – see next map) **for \$1.3 million** (consisting of \$1m cash and \$300,000 in MEU shares to TYX holders).  
[ ASX:MEU 14 May 2020 ]
- ✓ Marmota's offer is superior in every respect to an offer to acquire the same asset by suspended entity Syngas for \$950,000 cash.
- ✓ Tyranna shareholders are to vote on **31 July 2020** [ ASX:TYX 1 July 2020 ] whether to accept or reject the Syngas offer. If they reject the Syngas offer, Tyranna would be able to accept the superior MEU offer.



# MEU and TYX tenements

(as at Aug 2019)



The logo for MARMOTA features three overlapping, curved, horizontal bands in shades of yellow and orange, resembling a stylized 'M' or a swoosh. The word 'MARMOTA' is written in a bold, black, sans-serif font, centered horizontally and partially overlaid by the right side of the logo's swoosh.

**MARMOTA**

**Uranium**

**Strategic Review Underway**



# Uranium Asset: Strategic Review Underway

## Background

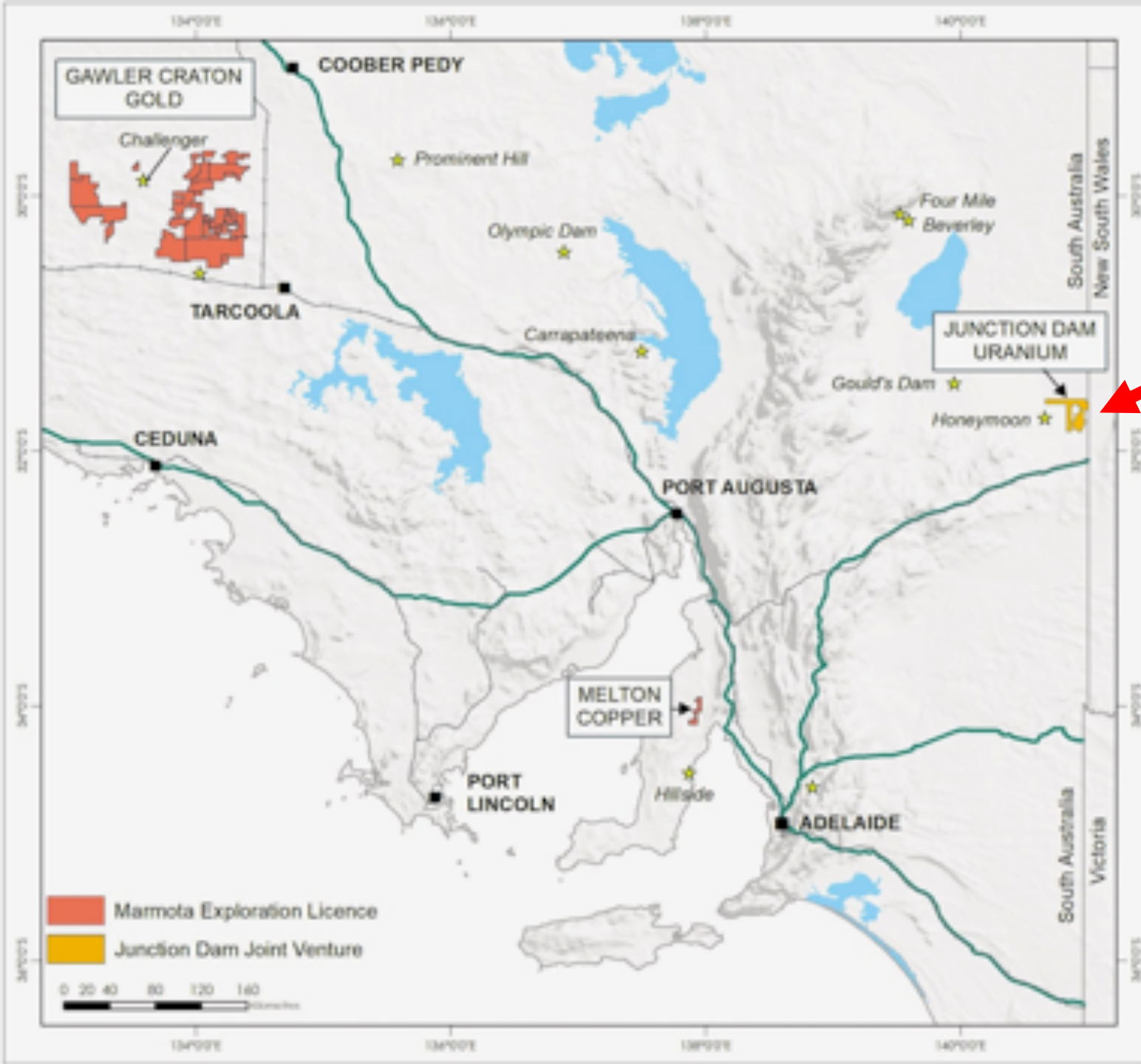
Given Marmota's present focus and success in making new gold discoveries at Aurora Tank, newer shareholders may be unaware that:

1. Marmota started out as a successful uranium explorer
2. Marmota has a substantial Uranium JORC Inferred Resource at **Junction Dam**
3. Junction Dam is strategically situated adjoining the Boss (ASX:BOE) Honeymoon uranium mine tenement – which is 1 of just 4 permitted uranium mines in Australia
4. By the end of 2014, Marmota had spent over A\$8 million developing its uranium project [ ASX:MEU 29 Sept 2014 ]
5. Marmota owns 100% of the uranium rights at Junction Dam
6. Marmota has not been active on uranium since 2014

## New Developments

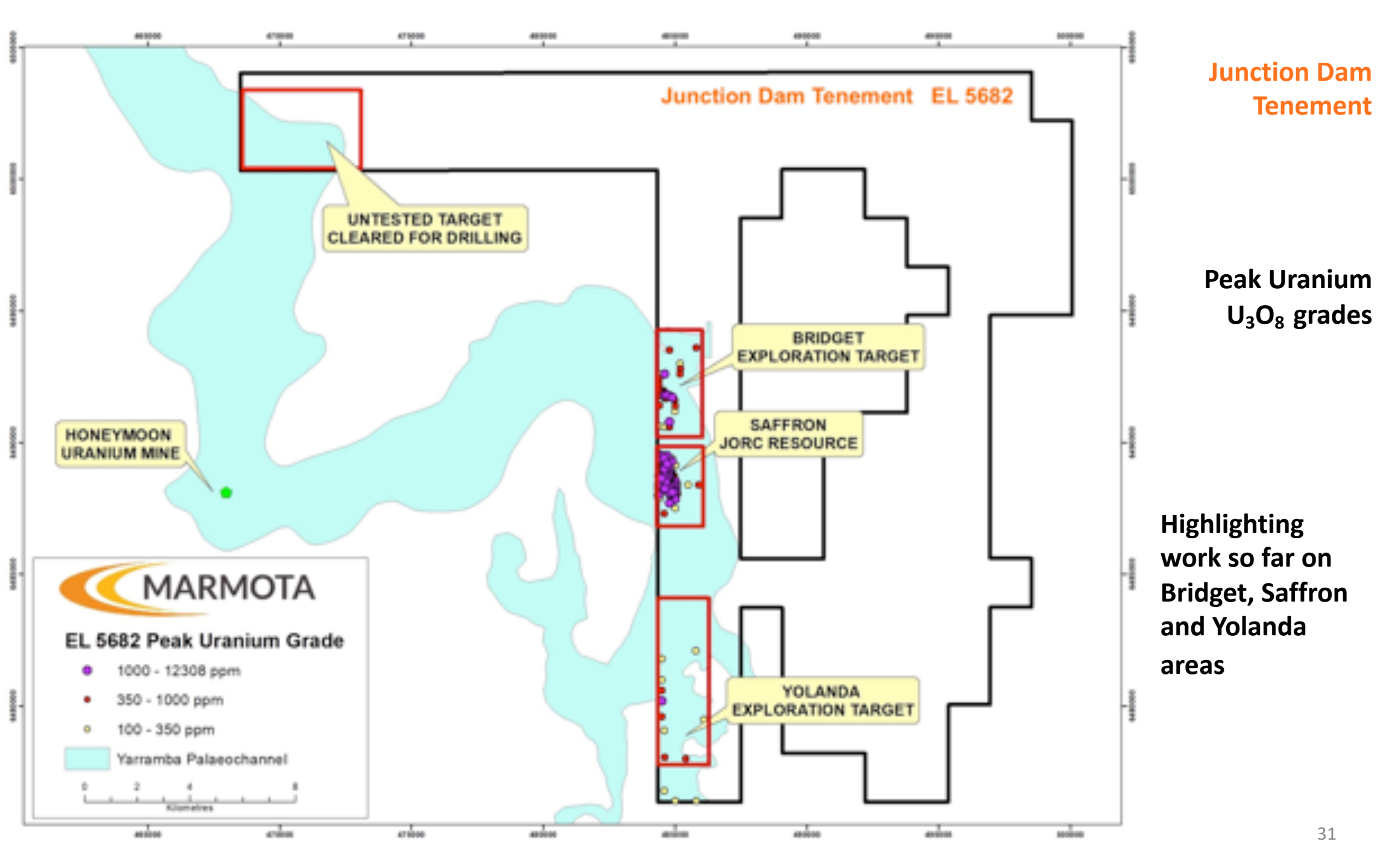
- ✓ Recently, **uranium prices have started rising significantly** for the first time in many years.
- ✓ Sentiment in the uranium sector has significantly improved, and continues to improve.
- ✓ Boss Resources (ASX:BOE) – owners of the Honeymoon plant 15km away – appear to be making solid progress towards bringing the Honeymoon plant back into operation.
- ✓ The MEU Board has commenced a strategic review of its uranium assets to add value to shareholders.

# Junction Dam Location



Marmota's Junction Dam project is strategically located 15 km east from the Honeymoon (ASX: BOE) in-situ recovery (ISR) uranium mine (50km west of Broken Hill) ...

... which is 1 of only 4 permitted uranium mines in Australia



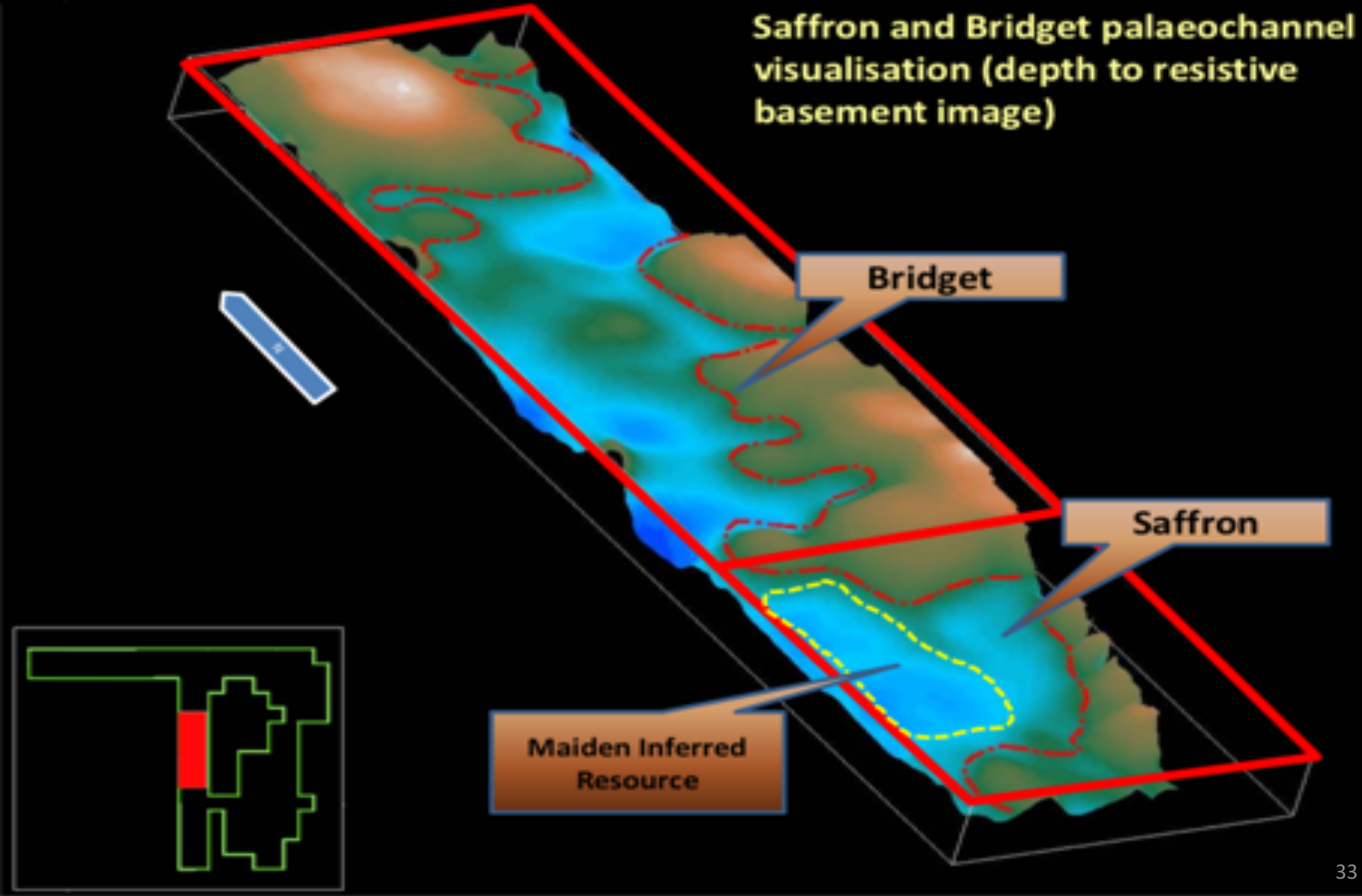
Marmota currently has:

- JORC Inferred Resource of **5.4 million pounds**  $U_3O_8$  [ Saffron deposit ]  
with average grade of 557ppm  $U_3O_8$  [ ASX:MEU 18 Nov 2011, 20 Feb 2012, 17 July 2013 ]
- Overall Exploration Target\* of **22–33 million pounds**  $U_3O_8$   
at approx. 400 to 700 ppm  $U_3O_8$  [ ASX:MEU 9 July 2012 ]

[ Uranium price is currently around A\$47 per pound ]

- Assay grades of up to 8,143ppm  $U_3O_8$  at the Saffron deposit
- Starting from the western tenement boundary, grades increase as one heads east into the Junction Dam tenement.
- Potential to increase size of resource with further drilling.
- NW bend never tested by Marmota.

\* Saffron deposit with Bridget and Yolanda prospects: see ASX:MEU 9 July 2012. The potential quantity and grade of an Exploration Target is conceptual in nature. The estimates of Exploration Targets should not be misunderstood or misconstrued as estimates of Mineral Resources. It is uncertain if further exploration over those zones currently defined by an Exploration Target will result in the determination of a Mineral Resource.





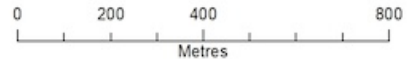
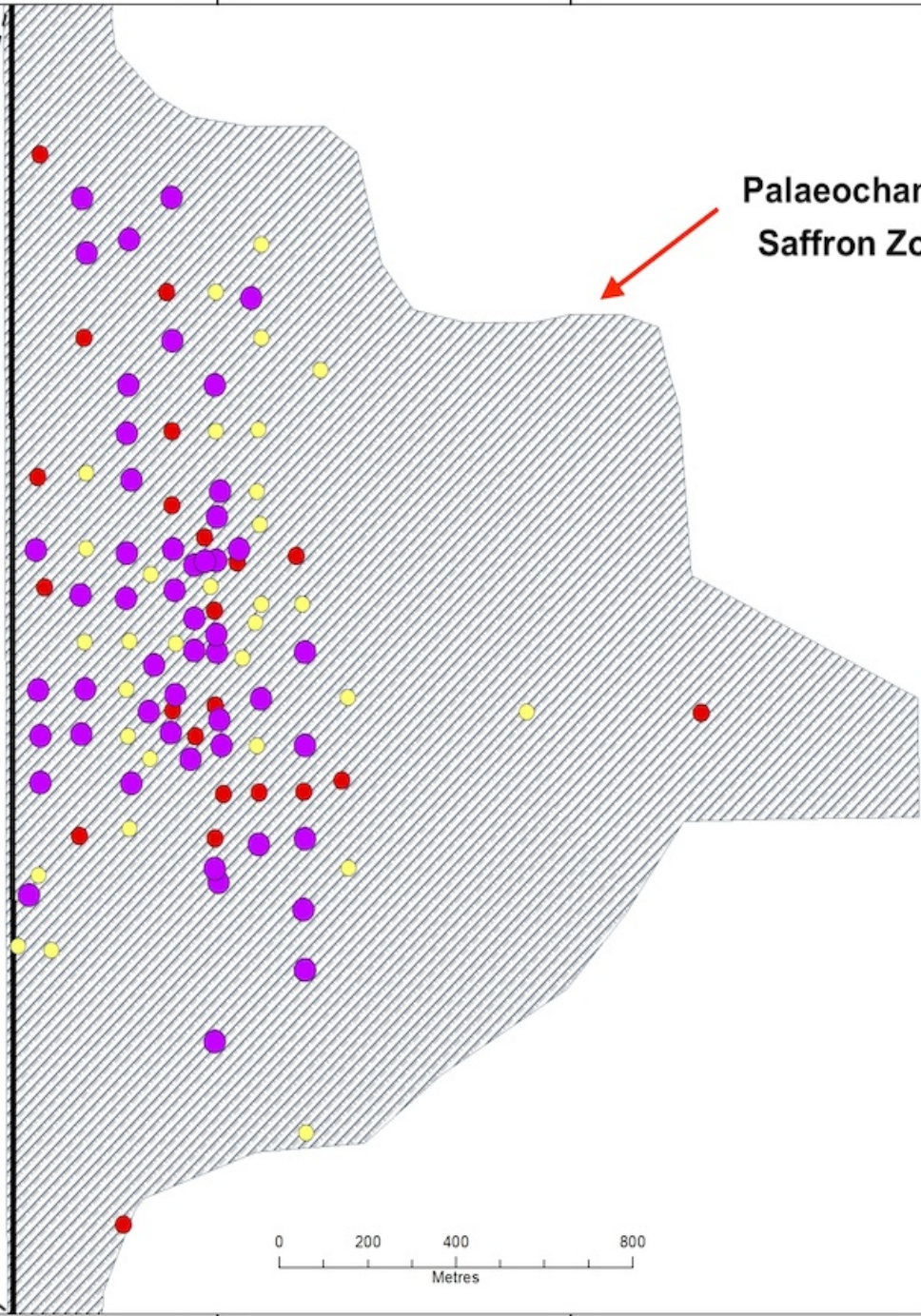
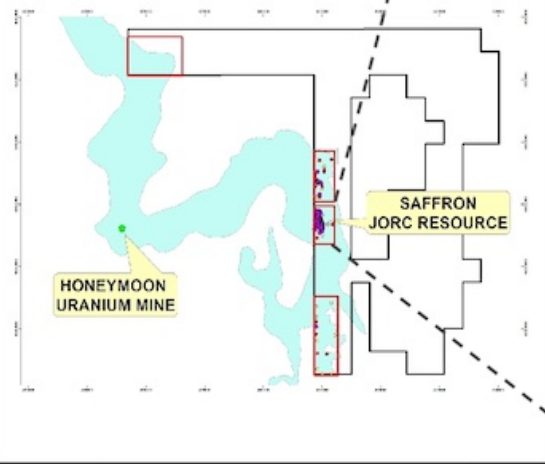


# EL 5682 Saffron Deposit

## Peak Downhole Uranium Grade

- 1000 - 12308 ppm
- 500 - 1000 ppm
- 100 - 500 ppm

- EL 5682 Tenement Boundary
- Palaeochannel Boundary Interpretation

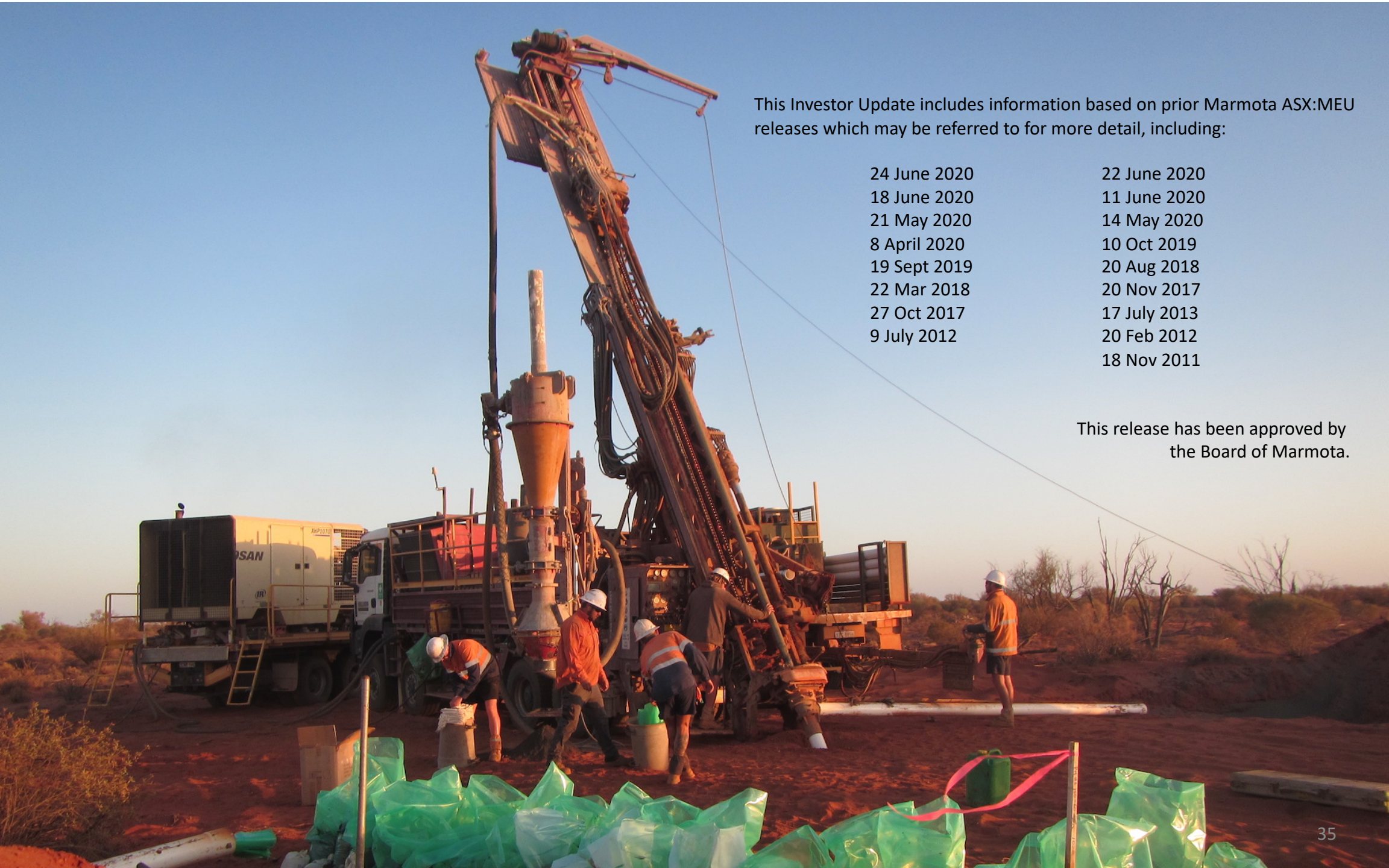


Junction Dam  
Tenement

Saffron  
deposit area

Peak Downhole  
Uranium grades  
 $U_3O_8$





This Investor Update includes information based on prior Marmota ASX:MEU releases which may be referred to for more detail, including:

24 June 2020  
18 June 2020  
21 May 2020  
8 April 2020  
19 Sept 2019  
22 Mar 2018  
27 Oct 2017  
9 July 2012

22 June 2020  
11 June 2020  
14 May 2020  
10 Oct 2019  
20 Aug 2018  
20 Nov 2017  
17 July 2013  
20 Feb 2012  
18 Nov 2011

This release has been approved by  
the Board of Marmota.

# Disclaimer

## Disclaimer

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Actual future events may vary materially from those in the forward looking statements. Recipients of this document are cautioned not to place undue reliance on such forward-looking statements. MEU makes no representation or warranty as to the accuracy, reliability or completeness of information in this document and does not take responsibility for updating any information or correcting any error or omission which may become apparent after this document has been issued. To the extent permitted by law, MEU and its officers, employees, related corporations and agents, disclaim all liability, whether direct, indirect or consequential for any loss or damage arising out of, or in connection with, any use or reliance on this presentation or information.

## 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.

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For further information, please contact: **Dr Colin Rose** Executive Chairman  
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